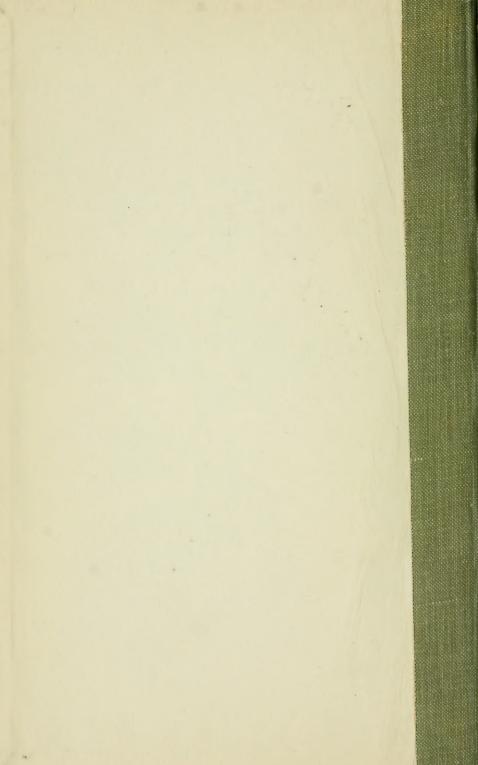
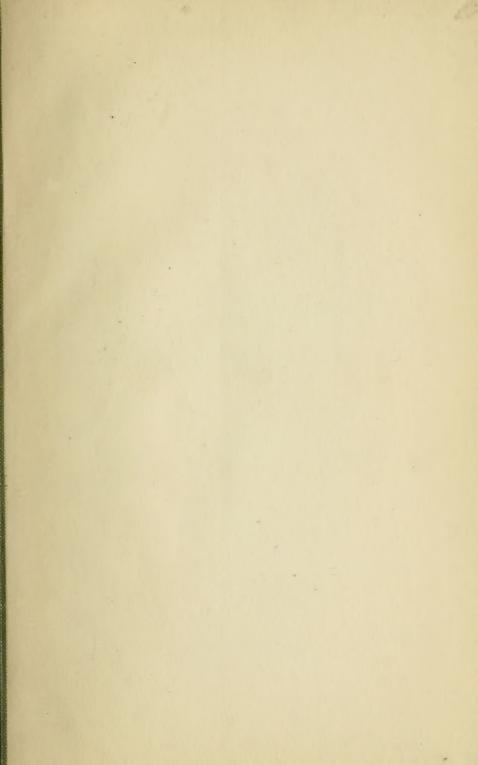
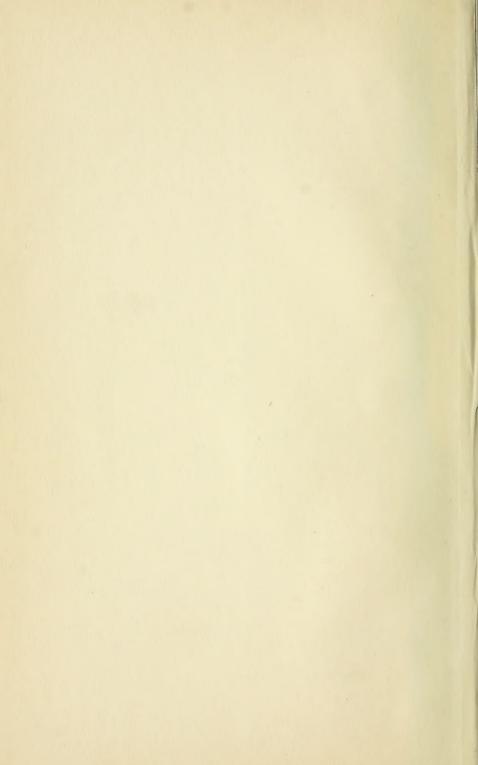
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THE

DUBLIN JOURNAL

OF

MEDICAL SCIENCE

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MEDICAL SCIENCE.

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PART I. ORIGINAL COMMUNICATIONS.

ART. I.—Tuberculosis in Persia and its Treatment by Koch's Tuberculin.^a By Harold T. Marrable, B.A., M.B., B.Ch., B.A.O., Univ. Dubl.; Surgeon to the Church Missionary Hospital, Isfahan, Persia.

It has fallen to the lot of the writer to witness during the past seven years the ravages of tuberculosis in what may well be described as virgin soil. Every physician is conversant with the disease as seen in the British Isles and Europe generally, and probably no subject has called forth a greater mass of literature or formed the subject of more commissions than the "white plague." But when we come to consider the disease as seen in Persia certain factors are apparent which, if of no great value in throwing fresh light on the disease in question, have at least the merit of possessing considerable interest.

It is well known that in Europe generally a considerable degree of immunity has been acquired by the inhabitants, the result of long years of contact with the disease.

It will hardly be disputed that in the towns at any rate

^a A Thesis read for the Degree of Doctor of Medicine in the University of Dublin, December, 1913.

practically every one comes into contact with, and absorbs into the system, greater or less amounts of tubercle bacilli; yet the fatality in England is about 1 in 737, in the United States of America 1 in 400, in Switzerland 1 in 492.

The morbidity statistics are not yet available, though now that pulmonary tuberculosis has been made a notifiable disease it will be possible to ascertain them. They may be reckoned, however, to be from two to eight times greater. It is obvious that the vast majority of people who come in contact with the tubercle bacillus never show any symptoms of infection; while of those who are infected, in some 50 per cent. the disease is arrested either spontaneously or by treatment at a sanatorium. This would hardly be possible were a considerable amount of immunity not present. That this immunity is an acquired one, due to the constant absorption of minute doses of toxin, I have little doubt, and this constitutes a much greater safeguard against morbidity than the mere possession of a robust constitution. A sickly individual who has been vaccinated will resist smallpox where a healthy unvaccinated person will fall a victim; the difference being that in this case the immunity has been caused by a vaccine, whereas the immunity in the former case has been obtained partly by inheritance and partly by direct contact with the infective element. Paton, Missionary to the New Hebrides, records how certain traders, for their own malignant purposes, introduced measles among the islanders, with the result that more than half the inhabitants succumbed to the disease. Yet in countries where measles has been incident for centuries the mortality is extremely low. Now, among the Persians some fifteen years ago pulmonary tuberculosis was practically unknown. I do not take into account the coast towns bordering the Caspian on the north and the Persian Gulf on the south, where the foreign element enters so largely into the population, but Central Persia, with its towns of Isfahan, Yezd, Karman, Shiraz, Sultanabad, Hamadan, and Tehran; numerous villages and certain nomad tribes, comprising a population of over 3,000,000.

How phthisis was first introduced is doubtful, possibly by Armenians from India, who carried it to the Armenian settlements in Julfa near Isfahan. Within the past five years it has spread rapidly, and is to-day becoming a veritable scourge. The inhabitants have not yet had time to acquire even a small degree of immunity, and the result is remarkable, for until the treatment by tuberculin was commenced not only have I never come across a case of spontaneous cure, but in not a single case have I seen other than a fatal termination even when treated as far as possible on sanatorium lines. Furthermore, the progress of the disease in the vast majority of cases has been remarkably rapid, few surviving more than one year from the onset of the symptoms, and this in spite of the fact that Central Persia possesses a climate which could hardly be surpassed for the treatment of chest diseases. I am aware that considerable difference of opinion exists as to the ideal climate for consumptives; some favour the seaside, others again prefer mountain air; but all are agreed as to the value of sunshine. Central Persia is a plateau averaging 4,000 to 5,500 feet above sea level; the rainfall never exceeds six inches per annum, and the number of days in the year on which the sun does not shine can be counted on the fingers of one hand; and, unlike northern latitudes, it shines from sunrise to sunset. There is no wet season. During the winter months one may have. perhaps, three falls of snow and a very occasional shower of rain. The summer, though hot, is not unpleasant owing to the complete absence of moisture. The people for the most part lead healthy, open-air lives, sleeping in the open all the summer through. It must be said, however, that they have no knowledge of hygiene or of prophylaxis, and during the cold winter months the whole family, often consisting of seven or eight persons, sleep in an unventilated room with their heads under one large cotton quilt. It is not surprising, therefore, that phthisis

affecting one member of the family should spread rapidly to the other members; and this is what almost invariably occurs.

It was, therefore, in soil exceptionally congenial to the development of the tubercle bacillus, that—convinced of the futility of the more generally approved methods of treatment—I decided to give Koch's tuberculin a trial.

I claim no credit for introducing tuberculin into Persia. To a colleague must be given that honour, and it was not until I had watched the results of that treatment for more than a year that I decided that it was well worth a trial. That I did not adopt the treatment sooner was owing to the fact that I was impressed by the attitude adopted by certain leaders of the Profession at home, who have chosen to take up a position of uncompromising hostility to the method of treatment under discussion. When three such men as Sir Wm. Osler, Sir Clifford Allbutt, and Sir Lauder Brunton express the opinion that the success claimed by the advocates of tuberculin treatment is due to the fact that treatment is chiefly undertaken in the earliest cases only, and, further, that cures are claimed in cases where the diagnosis has been faulty, lesser lights in the Profession cannot be blamed if they hesitate to adopt a contrary view. Yet I am firmly persuaded that not only are the authorities above mentioned wrong in their deductions, but they have not taken the trouble to verify their observations when the chance to do so was repeatedly offered to them by workers in tuberculin dispensaries. The work done and the statistics shown by such men as W. Camac Wilkinson among the poorer classes solely by tuberculin injections, unaided for the most part by sanatorium methods of treatment, give the direct negative to such assertions as those mentioned have been pleased to make. The results obtained by my colleagues and myself when all other methods failed convince me of the infinite superiority of the tuberculin treatment over all other methods, both in diagnosis and treatment of early and later cases. I admit that certain cases of advanced pulmonary tuberculosis have not responded to tuberculin, but they were hopeless cases, either by reason of the extremely advanced stage of the disease, or by reason of the presence of a severe type of mixed infection.

When Koch introduced tuberculin in 1891, the extraordinary excitement it produced was followed by an equally severe reaction, and the bitterness which sprang up in opposition to Koch has lasted in many minds down to the present day. Yet the failure of tuberculin at that time to do what Koch claimed for it was due, not to any fault in the remedy, but to the failure on the part of medical men to observe the restrictions laid down by Koch himself. It was not that Koch put forth his announcement prematurely, but medical men discovered, to their patient's cost, that they had not had sufficient training to exploit the remedy scientifically; and in consequence of the large doses used disastrous results followed, and tuberculin, which had only had a mockery of a trial, fell into disrepute. With improved preparations and better knowledge it has gradually regained favour, in Germany rather more than in the British Isles; still some—notably McCall Anderson—never abandoned its use. Quite recently Wright's work on "Opsonins" has had an immense effect in placing tuberculin on its proper footing as a therapeutic agent. Wright found that while the tuberculoopsonic index in healthy persons was between .8 and 1.2, in tuberculous patients with localised lesions the index was persistently low; while if the disease was widespread or active the index fluctuated greatly, the rises and falls being due to periodic inoculation. When the index is raised in localised tuberculosis, there is a tendency towards healing, and by the injection of small doses of tuberculin a rise in the opsonic index is brought about.

The immediate result of inoculating a tuberculous patient with tuberculin is to lower the index, producing what is called the negative phase, and the fall is succeeded by a rise, or positive phase. The object aimed at is to maintain the opsonic index at as high a level as

possible, for as long a period as possible. Wright's method of exhibiting tuberculin in very minute doses is open to certain objections, which will be mentioned later on. Being engaged in an extensive surgical and medical practice. I have had neither time nor facilities to study practically the problem of tuberculin from the point of view of the bacteriologist, and I would, therefore, mention only in the briefest fashion what may be described as the laboratory problem. When tuberculin is injected, a reaction, which may be described as focal, takes place at the point or points of disease. This is caused by the action of the tuberculin on the anti-bodies which are present in the tuberculous tissues, but not in the blood. Free enzymes in the blood and substances formed from the leucocytes also play an important part in this reaction. Arneth has proved that tuberculin, by attacking and killing large numbers of leucocytes, causes substances to be set free which play an important rôle in producing immunity in pulmonary tuberculosis. Treatment by tuberculin differs from serum-therapy in this respect, that whereas in the latter immunity is obtained by injecting the serum of a highly immunised animal, in the former the process of immunisation is carried on in the patient's own body. To consider the problem from the point of view of the clinician it would be well to mention first of all the objections to the treatment that have been urged by those who oppose this method of treatment.

They urge—I. That the use of tuberculin for diagnostic purposes is dangerous (a) in the tuberculous subject inasmuch as it may cause a general lighting up of a hitherto localised lesion, (b) in the non-tuberculous inasmuch as it may give a reaction and thus cause a wrong diagnosis, or that it may even cause tuberculosis in the healthy, (c) that reactions have occurred in such diseases as syphilis, actinomycosis, and leprosy.

II. It has further been stated with regard to the use of tuberculin for curative purposes that equally good results can be obtained by the production of auto-inoculation by graduated exercises, and lastly that the difficulty experienced by the physician in estimating the opsonic index is a bar to the intelligent use of tuberculin. Let it be stated at once that these objections, which have all been put forward by opponents, are for the most part theoretical, and not the result of patient and impartial investigation of the subject.

In answer to any doubt expressed as to the safety of tuberculin when used for diagnostic purposes, I would emphatically state that in my own experience and in the experience of those who have tested thousands of cases, there is no reason to suppose that any bad result has followed the intelligent use of tuberculin. If one is foolish enough to inject tuberculin into a patient who has obviously only a few days to live, it need cause no surprise if the result is disappointing. If, again, one used one hundred to one thousand times the proper dose, as was done again and again when tuberculin was first introduced, can one be surprised if untoward results follow? Even if in a small percentage of cases the reaction unfavourably influenced the course of the disease it would be unfair to condemn the method on that account. We have vet to learn what rôle quinine has played in causing death by inducing hæmoglobinuric fever; vet we do not discard it because it has at times failed. We learn to use it properly through the mistakes of the past. In spite of failures and fatal results, quinine is the remedy par excellence for malaria.

Possibly in very advanced cases of lung tuberculosis, the reaction to tuberculin may fail because a certain degree of immunity to the effects of the toxin is reached, but in such cases the tuberculin test is no longer needed for diagnosis. Certain it is that in suitably selected cases, and in properly controlled doses, no ill effects have been noticed; and no authenticated instances are known to me in which tuberculin has produced toxic symptoms of any kind whatever in the non-tuberculous. That dead and macerated bacilli which have further been boiled could ever produce

tuberculosis in the healthy is an absurd idea, and the contention is hardly worth refuting.

That reactions have been observed in syphilis and other diseases is possible, though such evidence as I have been able to gather on the subject is most vague. It must be borne in mind that in tuberculin we have a test of almost hyper-sensitiveness, and the most minute infection of living tubercle will cause a reaction when the presence of some other infection has completely masked all traces of tuberculosis, and in no case in which tuberculin has given a positive reaction has tuberculosis in some form been positively excluded.

In reply to those who prefer auto-inoculation by graduated exercise as more conformable to nature's methods, I would say that, apart from the difficulty of controlling the amount of stimulus, it has this drawback, that at the beginning of the treatment, when the disease is more or less active, slight exercise will cause a severe autoinoculation, while heavy labour a few weeks later may fail to produce any auto-inoculation whatever. With regard to the difficulty of regulating the dosage by constant estimation of the opsonic index, I maintain that not only is the opsonic index unnecessary as a guide, but it is actually fallacious. Wright himself, though chiefly instrumental in bringing about the rational use of tuberculin, has not had the brilliant success in using tuberculin that has fallen to the lot of others who were not so hampered by "opsonins." All who have used tuberculin for any length of time must have noticed that in some patients there is often a hyper-sensitiveness present at the beginning of the treatment, but that if the earlier doses are pushed somewhat, a much greater degree of tolerance is obtained. Whereas if the small doses are persevered with there is a danger of the condition of hyper-sensitiveness being unduly prolonged. Considering how extremely resistent tubercle bacilli are, it seems foolish to suppose that very weak doses of tuberculin repeated at intervals of time can produce any marked bacteriolytic effect, yet this is Wright's method, even though he admits that in localised tuberculosis small doses of tuberculin repeated every three or four days tend to lower the opsonic index and cause the negative phase; yet surely any system which raises the opsonic index makes for immunity, and anything which lowers it increases the predisposition to the disease.

Furthermore, the opsonic index is itself so liable to variation from trifling causes that it cannot be considered a trustworthy guide.

Success is undoubtedly obtained more often in early cases, but the most brilliant results are to be found in later cases. When a patient, who has had both lungs extensively affected, is able to walk several miles a day without undue fatigue, has little or no cough, feels well and eats well, yet whose sputum contains considerable quantities of tubercle bacilli, that patient has surely attained a very high degree of immunity. The disappearance of tubercle bacilli from the sputum is not always coincident with improvement in the general condition. The bacilli may still be present for many months without the patient showing any appearance of ill health. Such patients must evidently be classed among the "bacilli carriers," whom we also find in other diseases—viz., typhoid fever, dysentery, and diphtheria.

It must not be thought that the writer does not realise that certain cases are unsuitable for tuberculin treatment. Cases of severe mixed infection are not likely to be improved by tuberculin, at any rate alone; and it is an open question whether tuberculous subjects suffering from other diseases, such as Bright's disease, diabetes, heart disease, &c., which sooner or later will produce a fatal termination, should be subjected to treatment which, though successful for the purposes for which it was intended and administered, can have no effect in materially prolonging the patient's life. While the physician who worships statistics will refuse to treat advanced cases of phthisis, there is no doubt that others more courageous have had the most remarkable results. Not only have cases in Class III. been brought back into Class II., and life prolonged for several

years, but the disease has been completely arrested in cases where admission into a sanatorium has been refused on the grounds that the case was hopeless. Hæmorrhage constitutes no contra-indication to the use of tuberculin. On the contrary, it has been found that tuberculin tends to check it. It has been stated by many advocates of the treatment that no treatment by injection should be attempted when the daily temperature of the patient exceeds 100° F. My own experience does not bear this out; and the following case is a good illustration:—

CASE I.—A native employée in the Indo-European Telegraphic Department consulted me for enlarged glands in the neck. I found that he had dulness over the left apex. suffered from loss of appetite, and had evidently lost weight. He was put to bed, and four-hourly observations showed that his temperature varied from sub-normal to 102-3 degrees. As so many of the natives suffer from malaria, he was given quinine, also iron and arsenic. Tubercle bacilli were found in small quantities in the sputum. After several days' treatment no change whatever took place either in the temperature or in his general condition, and at his own request he was allowed to return home. I saw him at intervals during the next two months, and he was eventually induced to come into hospital for a prolonged course of tuberculin treatment. As tubercle bacilli were present in the sputum, a diagnostic injection was not given, but he was started straight away on minute doses of P.T.O. At first no change was apparent, but as stronger injections were given it was noticed that when the reaction which caused the temperature to rise rather higher than it had previously done was over, the tendency was for the temperature to fall and to remain at a lower level than before the injections were started. The mean temperature before treatment had been 100.5°, it was now 99.5° The improvement continued, and in six weeks from the date of commencing treatment, the temperature, when the reaction was over, varied only from normal to 99°. It may be thought that rest in bed caused the temperature to fall. As a matter of fact whereas he was confined to bed for several days on his first visit to hospital with no result, on the second occasion when the tuberculin treatment was started no attempt was made to keep him in bed, and he was allowed to walk about the hospital grounds.

I have had other cases similar to the one just quoted. Mixed infection does undoubtedly occur, and in severe cases the prognosis is unfavourable. The rational line of treatment seems to be to administer tuberculin together with vaccines suited to the infection present, and made, if possible, from cultures taken from the patients; but the point I wish to bring out is that many cases of pulmonary tuberculosis run high temperatures when, judging by the action of tuberculin alone, only a very slight degree of infection exists, or, as I believe, infection often does not exist at all. It seems to be generally accepted that pulmonary tuberculosis uncomplicated by a superimposed infection runs an afebrile course, but at present I do not feel at all clear upon that point. Why should toxins formed by the tubercle bacilli not be capable of disturbing the thermal centre as well as the toxin, say, of a streptococcus?

The question now arises how far it is advisable when treating the consumptive patient with tuberculin to aim at avoiding a general reaction. The importance of the general reaction is regarded differently by different writers. One school, represented by Götsh, Möller, Löwenstein, and Camac Wilkinson, apparently regard a general reaction a., inevitable. They begin with comparatively large doses, and repeat these until the reaction fails. Another school, represented by Wright and Sahli, regards even a slight reaction as harmful. The initial dose is very small, increase is slow, and the period of treatment very long. In my opinion the method aimed at by Wynn and other workers in Birmingham is calculated to result in the greatest measure of success. They aim at an occasional general reaction; in other words, a mean between the two above-mentioned methods.

From the point of view of the clinician, three reactions take place after the injection of tuberculin—viz.:—

- (1) Local—at the point of injection. This is evidenced by pain, redness and swelling in greater or less degree.
- (2) Focal—which consists of hyperæmia at the infected spot.

(3) General—as seen in a rise of temperature and a general feeling of malaise.

The focal reaction is what we desire to produce. In such cases as lupus, phlyctenular disease, and tubercular iritis it is possible to estimate visually the presence of the focal reaction; but in pulmonary tuberculosis it is impossible to do so, consequently, we have to depend on the other factors for information as to the presence or absence of the focal reaction. The focal reaction is the most sensitive of the three. Consequently, if a local reaction is present a focal reaction may be presumed; still more so if a general reaction be brought about. If the diseased area be small and localised, focal reactions may be sufficient to heal the diseased part, but sensitiveness remains and immunity is not produced. As has been pointed out, the constant repetition of small doses which cause focal reaction only may bring about a condition of anaphylaxis; whereas if the doses be more rapidly increased a condition of immunity is produced. Constant general reactions cause unnecessary suffering, and are apt to disturb the general health of the patient. On the other hand, the total avoidance of a general reaction prolongs the time necessary for treatment very considerably, and fails to establish a satisfactory condition of immunity, on which Koch lays much stress, pointing out that all bacteriological treatment must rest upon immunity. And in the particular case of tuberculosis the difficulty of producing immunity constitutes the crux of the problem of successful treatment.

To my mind, one of the most valuable features in connection with tuberculin treatment is the fact that sanatorium treatment is not by any means a sine qua non. This fact makes the treatment a doubly valuable one out here in Persia, where there are no facilities for the erection or maintenance of sanatoriums, and where the natives are quite incapable of assimilating ideas or understanding instructions which would make sanatorium treatment at home a possibility.

In tuberculin dispensaries in the British Isles the vast majority of patients are unable to avail themselves of the fresh air treatment, yet the results are extremely good. Wilkinson and others who have had an extensive practice among the poorer classes are unanimous that tuberculin can more than hold its own without the addition of other systems of treatment.

Drugs should for the most part be rigorously avoided. The plan adopted by so many of administering large quantities of creosote is, I believe, highly inimical to the well-being of the patient. It impairs the digestion, and the minute quantities of it that reach the lungs viâ the circulation can have no effect whatever in destroying the tubercle bacilli. Tubercular patients are often anæmic, and, therefore, small doses of iron and arsenic given at intervals are useful, and at the beginning of the treatment I generally give a mild sedative cough mixture; but here the list of drugs administered should stop. Neither have I found it at all expedient to load up the patient with minute instructions as to his food or method of life. The importance of avoiding undue exertion, especially immediately after the injection, should be pointed out, and the rest I leave to tuberculin and to nature.

It remains to consider the *technique* of tuberculin injections. There are many varieties of tuberculin. They may be divided into three classes:—

- I. Preparations obtained from broth containing tubercle bacilli.
- II. Preparations obtained from germ-free tubercle bacilli.
 - III. Preparations from the free tubercle bacilli.

Some are made from bovine tubercle, others from the human type. The various preparations contain no essential difference except that of strength, and it is largely a matter of taste as to which preparations are selected, bearing in mind, of course, that one would proceed from the weaker to the stronger preparation. My own custom is to use the old tuberculin, which is a sterilised filtrate ob-

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tained from broth containing tubercle bacilli for diagnostic purposes. This is the strongest preparation made, and is generally given as a first test dose in the strength of .001 c.c. An easy method of measuring this amount is to dilute a quantity of old tuberculin to the strength of 1-50, .05 c.c. of this solution is then injected. If no reaction occurs a further injection of .005 is given three days later. If there should still be no reaction a last test, consisting of .01 c.c. old tuberculin is given. A negative result after the last injection completely excludes the presence of tuberculosis. I commence treatment with Perlsucht-Tuberculin-Original, generally known as P.T.O. This original bovine preparation is the weakest made, being 250 times weaker than old tuberculin. The result following the diagnostic injection affords some indication as to the commencing dosage for curative purposes. Should the patient have reacted strongly to the minimal diagnostic dose, it would be well to commence with as small a dose as .001 c.c. of P.T.O., whereas a less sensitive subject might be given .01 c.c. to commence with. The fluid used for diluting all the preparations of tuberculin is normal saline with 1 per cent. carbolic acid. While the concentrated preparations will keep for any length of time, and dilutions of 1-5 for a month or more, the higher dilutions lose their power in a day or two. It is difficult to lay down precise rules with regard to increase of dosage, as the personal factor enters so largely into each case. I make a practice of increasing the weaker doses as rapidly as possible. A marked characteristic in tuberculin treatment is the feeling of well-being which pervades the patient after each injection. If this is present, and the temperature does not rise more than 1° F., a double dose is given in the earliest stages, at the rate of twice in the week. If the temperature rises 2° the same dose is given at a similar interval of time. If the reaction is more severe the dose is reduced, and if necessary the interval between the doses is prolonged. I would call attention once again to the danger of prolonging the

period of hyper-sensitiveness which is sometimes met with by undue hesitation in increasing the injection. When, for some reason or other the patient does not seem to be deriving the maximal benefit from injections of P.T.O., the writer has tried old tuberculin with good results; the latter being 250 times more powerful, the dose must be regulated When 2 c.c. of P.T.O. has been reached in proportion. the dose is increased in tenths of a c.c. unless a marked amount of tolerance is present, which is shown by the complete absence of general reactions, in which case the dose is more rapidly increased. As the doses increase in strength more and more caution must be observed. The greater the amount of immunity produced the less need is there for doses causing a general reaction; and in the later stages of treatment local reactions alone, or almost alone, should be aimed at. Having raised the dose to 1 c.c. of P.T.O. I proceed to bovine tuberculin (P.T.), which is 50 times stronger than P.T.O., and by cautious increases I get the dose up to 1 c.c. A patient who fails to react to 1 c.c. of P.T. has attained to a very high degree of immunity, and some workers are content to cease treatment at this point. I prefer to proceed to old tuberculin which is five times stronger than P.T. This preparation is made from bacilli of the human type, and is the strongest tuberculin made. In the majority of cases I proceed to 1 c.c., and repeat the latter dose at intervals, increasing up to one month. The time occupied in treatment varies from six months up to one year; but it need in no way interfere with the patient's occupation, provided always that extreme exertion be avoided on the day of the injection. It is better to give the injection in the morning; the reaction can then be noted by four hourly observations of temperature throughout the day. If given at night the reaction will occur unnoticed during hours of sleep. The patient should be trained to take his own temperature.

The true test of the value of any treatment is freedom from relapse after return to ordinary occupations, and in this the advantage is on the side of tuberculin, and to a far greater extent than in the immediate results. Relapses do occur, but far less frequently than in treatment by other methods. It is well to insist upon seeing the patient six months after the last injection, and then if possible to arrange for periodic visits of once a year, when diagnostic injections should be given. If any relapse is apparent it is generally much less serious than the original infection, and can be adequately met with a further but shortened period of treatment.

Hitherto my remarks have been confined to pulmonary tuberculosis, for the reason that it is by far the most serious manifestation of the disease; but any remarks that have been made with regard to the efficacy of the treatment of phthisis refer in a still greater measure to the treatment of tubercular bones, glands, &c. If all such cases were treated by tuberculin "surgical tuberculosis" would cease to find a place in our nomenclature, for the simple reason that such cases would never reach the surgeon's hands. During the past eight years I have treated hundreds of such cases, and although operative measures in a considerable percentage of cases result in cure, it is generally at the expense of impaired vitality and only after a lengthy period in hospital and repeated recourse to the knife. It is nothing short of marvellous how quickly tubercular glands disappear under treatment : even suppurating sinuses come to need little attention beyond antiseptic dressings. When cases have gone on to the formation of sequestra these must be removed; but when this has once been done healing takes place literally in a few days. As a rule such cases are much less sensitive than pulmonary cases, and treatment can be proceeded with more rapidly. In other forms of tubercular infection tuberculin has been used with good results. Cases of renal and vesical tuberculosis have been recorded where tuberculin treatment has been eminently satisfactory. A case of Addison's disease, in which treatment with tuberculin appeared to be directly responsible

for the good result, is recorded. But so variable is the course of this disease that it is very difficult to be sure whether the favourable result is really due to the treatment adopted. It is obvious that much work remains to be done in determining the possibilities of this form of treatment; but that it is capable of more than holding its own with other forms of treatment I have no doubt.

Before concluding I append records of six cases in no way exceptional, but chosen because of their being typical of many others treated during the past two years.

Case II.—B., age twenty. Examined 20th January, 1913. Had been unwell for some months; complained of shortness of breath and pain on the left side. Examination showed dead dulness over the whole of the left side of the chest. Heart displaced to right. A little fluid was drawn off and examination of sediment of centrifugalised fluid showed the cellular element to be almost entirely lymphocytes. About 30 ounces of fluid were withdrawn from the chest by aspiration.

January 24.—Diagnostic injection of O.T. .001 c.c. given—no reaction.

January 26.—Diagnostic injection of O.T. .005 c.c. given. Temperature rose to 100° F.

January 30.—Diagnostic injection of O.T. .01 c.c. given. Temperature rose to 101° F., with much soreness at site of injection.

After one month's treatment, tactile and vocal fremitus felt, though not as strongly as on the right side. Weight increased 4 lbs. On August 15 the treatment was concluded, fluid having completely cleared up. Patient looked and was extremely well.

Case III.—A. Khan, age twenty-five. Has had a cough for four months, with considerable loss of weight. Night sweats for past month. Harsh breathing at both apices, especially the right.

Diagnostic injection of O.T. .001 c.c. given. Temperature

rose to 102.5°.

Weight on commencing treatment, 11st. 1lb.

Under treatment, in one month he put on 6½ lbs., and in five months, when treatment was concluded, his weight was

12st. 5lbs., a gain of 1st. 4lbs. Cough disappeared within two months.

Case IV.—M. A., age thirty-eight. Pain in bladder, urine foul, nocturnal incontinence, anorexia, loss of weight. Medicinal treatment for one month of no effect.

Diagnostic injection .001 c.c. O.T. Temperature rose to 100.4° F.

Diagnostic injection .01 c.c. O.T. Temperature rose to 101° F. with temporary increase in severity of bladder symptoms.

Within two months urine quite clear; increase of weight, 103lbs.; nocturnal incontinence slightly better.

At the date of writing the treatment has still a month to run—increase in weight after five months treatment, 14½ lbs.; nocturnal incontinence considerably better but still present.

Case V.—W. M., age thirty-five (female). Constant low fever for past six months; losing flesh; chronic diarrhœa; no chest symptoms. .005 c.c. O.T. injected. Temperature 101.5°.

Treatment commenced June 1912. Weight, 8st. 5lbs.

Immediate improvement from the start; fever ceased after three weeks treatment; intestinal trouble cleared up a month later. Treatment finished July 1913.—Weight, 9st. 12½lbs.

Case VI.—P. J., age fifteen (female). Periosteitis of tibia; cough for some months; slight dulness over both apices; Râles; loss of weight. Diagnostic injection—.001 c.e. O.T. Temperature 100.5°

Treatment commenced December 1912. Weight, 7st. 3lbs. Improvement rapid. Treatment concluded August 1913—Weight, 8st. 13lbs. All tubercular symptoms disappeared.

Case VII.—M. A., age twenty-two. Previous history of cough and hæmoptysis. Recent history—cough and fever for two or three months; losing flesh; hæmoptysis; movement of right apex impaired; hollow note; cavernous breathing down to fourth rib; quantity of tubercle bacilli in sputum. Temperature every night from 99.6° to 101°. Treatment commenced March 2, 1912. Evening rise of temperature continued over four months, ranging from 99° to 100.6°. Two slight attacks of hæmoptysis during that time. General health improved

from beginning of treatment. After July 26 no more fever. Treatment continued until February 1913, when patient had lost cough and looked well. Sputum obtained with difficulty; no T.B. found. June 28, 1913—Tested with tuberculin—no reaction; physical signs fast disappearing; front of chest normal; one point at back of right lung; cavernous breathing; no cough and no sputum.

In conclusion, I would briefly summarise my reasons for my strong belief in tuberculin treatment:—

- 1. In tuberculin we have the most delicate and reliable method of diagnosis known.
- 2. Statistics show a greater percentage of cures by tuberculin than by any other method.
- 3. The treatment can be carried on without interfering with the patient's occupation and without banishment from home and family.
- 4. The comparative cheapness of the treatment compared with other methods.
- 5. The greater freedom from relapse compared with other forms of treatment.

To the late Prof. Robert Koch the world owes a debt of gratitude; all the more that while living he was the recipient of criticism and abuse that might well have turned a lesser man from the pursuit of knowledge. But he knew he was on the right path; he knew that with him, as with Galileo, Newton, Jenner, Pasteur, and Lister, opposition and failure were merely stepping-stones to success—the recognition of which is being more heartily accorded year by year.

Si monumentum quæris, circumspice! Not the individual victim alone, but mankind is benefited, and when the day comes, as without doubt it will, when tubercular disease has ceased to exist, humanity will surely bless the name of Robert Koch.

ART. II.—Bile Pigments and their Derivatives in the Urine.^a By Reginald Tate Vaughan, M.D. Univ. Dubl.

MUCH confusion has hitherto existed concerning the relationship between certain substances in the urine and the bile pigments or their derivatives. The urinary constituents of importance which are believed to originate from bile pigment may be grouped under three heads:—

I.—Unchanged bile pigment—mainly bilirubin.

II.—Urobilin.

III.—Urobilinogen.

I.—In addition to bilirubin various other bile pigments like biliverdin, bilicyanin and choletelin occasionally occur; but as they are found only in minute quantities, and always in association with the more obvious bilirubin, all can be classed together. The connection between the occurrence of bilirubin in the urine and obstructive jaundice may be briefly passed over.

There is no difficulty in realising from well-known physiological fact that bile is secreted at very low pressure, that comparatively slight obstruction to the outflow will cause reabsorption, circulation in the blood and excretion in the urine. Hence the presence of plain bile pigment in the urine -e.g., in cases of cancer of the head of the pancreas or cholelithiasis-may be naturally expected. The origin of the bilinuria in the case of the so-called hamatogenous jaundice is, however, more difficult to explain. It was formerly supposed that in these cases the liver was unable to deal with the large amount of free hamoglobin, hence some was excreted as bilirubin. The modern view, however, is that all such cases are really hepatogenous in origin, and the bile, either through increased viscosity or inflammatory occlusion of the smaller bile ducts, is unable to pass

^a A Thesis read for the Degree of Doctor of Medicine in the University of Dublin, June, 1913.

through and is reabsorbed. The term "toxicina jaundice" is preferable for such cases. It should be borne in mind, however, that bilirubin may originate from other sources than the liver—e.g., its crystals have been found in old extravasations of blood and in certain cysts, especially of the breast and thyroid. Such cases are of rare occurrence and of somewhat academic interest, and do not alter the well-known clinical fact that bile pigment in the urine means obstruction to the outflow of bile from the liver

The tests—i.e., Gmelin's and its modifications, and the iodine test—are sufficiently well-known and reliable to render unnecessary any reference to others more complicated and questionably superior.

II.—Urobilin is a constituent of normal urine and is frequently mentioned as one of the urinary pigments, though it has hitherto been found impossible to isolate it in the pure state. It is now generally accepted that urobilin is not one of the colouring matters of the urine and is in fact colourless. It is in all probability a derivative of bilirubin, but it is doubtful whether it is identical with hydrobilirubin as was formerly assumed. There is little doubt that the greater part of the urobilin is derived from urobilinogen, a substance to which reference will be made later. The usual tests for its presence are—

(a) Spectroscope—acidify the urine with dilute HCl. when an absorption band appears between green and blue.

(b) Render the urine alkaline with ammonia, filter, when the addition of a few drops of a 10 per cent, solution of ZnCl₂ gives a green fluorescence.

An increase of urobilin is said to occur with some forms of icterus, but most stress has been laid upon its association with conditions of increased blood destruction—e.g., scurvy, pernicious anamia and internal hamorrhages. It has even been claimed that the presence of urobilin may be of diagnostic importance in the last-named cases—e.g., hamorrhage of ectopic gestation

and in the differentiation of cerebral hæmorrhage from other vascular lesions.

The presence of fever also causes presence of urobilin, and hence a rise of temperature will detract from the value of the test. Further, a hæmorrhage must be large to give the reaction, and in such a case too often the diagnosis is revealed by a quickly supervening post-mortem examination. Whether urobilin is entirely derived from Urobilinogen or not the examination for the former substance appears to be of much less importance than for the latter, and it is to this subject that I wish to draw particular attention.

III.—It is now generally admitted that bilirubin can be reduced with the formation of urobilinogen. There is little doubt that this change takes place in the intestine, particularly in the cæcum, under the action of the colongroup of bacteria.

Most of the urobilinogen thus formed is excreted in the faces, but some is reabsorbed by the portal system and carried to the liver, thus constituting a circulation of bile pigment somewhat comparable to that known to occur in the case of bile salts.

The normal liver re-excretes it as bile pigment, but when the liver cells are impaired from any cause, or when the collateral circulation becomes established, urobilinogen passes through into the general circulation and is excreted by the kidneys. Assuming this theory to be correct, if we had now some means of recognising the presence of urobilinogen in the urine, we should possess a valuable test of the condition of the liver. It is unnecessary to point out the existing need for such information. In spite of its extraordinarily complex and essential functions, diseases of the liver show strangely few clinical signs, except in advanced or hopeless cases. A test recently introduced appears to fulfil this requirement—viz., the Aldehyde Reaction. My attention was first drawn to this test when undergoing a recent medical examination. To my surprise I was informed that my liver was not normal. The fact was probably only too true, as I had five months previously passed through an acute attack of catarrhal jaundice. The impression made upon me at the time induced me to follow up the test, and I have since examined a considerable number of cases.

In 1901, Ehrlich discovered that one of his many synthetic preparations gave a curious red reaction with some urines. He did not then know the cause, but a couple of years later Neubauer showed that the reaction was due to the presence of urobilinogen. Ehrlich's preparation is known as dimethyl-para-amino-benzaldehyde, and is a greenish-yellow powder to be obtained from Merck's. It is employed in a 2 per cent. solution in 50 per cent. of HCl. The application of the test has at any rate the merit of simplicity. A couple of drops of the solution are added to about 5 ccs. of urine. If any disturbance of liver function exists, a bright rose-red colour appears, sometimes taking a few minutes to develop. The chemical nature of the reaction is obscure, but it is stated by Neubauer to be due to pyrrhol derivatives.

Normal cases give either no colour, or frequently a trace of pink which is explained by temporary constipation or congestion and is apt to disappear after a saline purgative. It is a curious fact, however, that many normal urines give the test on boiling. The reaction is not interfered with by other substances present—even albumen—in the urine, while of medicinal substances antipyrin (phenazone) alone has been found to cause it. One precaution, however, should be taken, *i.c.*, the urine should be fresh, otherwise the urobilinogen oxidises to urobilin and the reaction disappears. This can be shown to occur by the addition of an oxidising agent such as H_2O_2 .

In addition to a considerable amount of clinical evidence—which is accumulating especially on the Continent—concerning this test, animal experiments are reported which support its rationale. If the bile duct be ligatured in a dog, urobilinogen appears during the first day in the urine because bile pigment is already in the intestine, but

the liver is quickly disorganised by obstruction of the duct and allows absorbed urobilinogen to pass through. By the next day jaundice has appeared, quickly followed by abundance of bile in the urine. The amount of urobilinogen is, however, less and the reaction quickly disappears altogether, because at this stage there is no longer bile pigment in the intestine.

As regards the clinical value of the test, my own experience agrees to a large extent with the reports already published. Generally speaking, any condition interfering with the normal condition of the liver cells or with even a limited number of them will render the reaction positive, presumably because urobilingen is allowed to pass through. The test is a delicate one. It will not measure the gravity of the condition nor obviously differentiate the disease present. The advantage of ascertaining, however, on the one hand in an obscure case that the liver is at fault, and on the other hand where disease of the liver might be reasonably suspected, that this organ is healthy, are readily evident to those who have had experience of such cases—e.q., I have known a case subjected to gastro-enterostomy, when in the course of the operation the liver was found to be a fine specimen of cirrhosis. Ascites is not always due to cirrhosis even when the clinical history appears to favour the diagnosis, and I have known a case where the liver was shown by this test to be healthy and the patient subsequently died of general cancer of the peritoneum.

It is useless to operate in a case of abdominal cancer except for the relief of urgent symptoms when the liver contains secondary nodules, seldom to be recognised clinically, but this has frequently been done by means of this test. Two obscure cases recently came under my notice, where, though the result was not affected, the diagnosis was materially assisted by the finding of a positive reaction. One was a case of acute yellow atrophy which subsequently developed classical signs, with leucin and tyrosin in the urine, ending fatally, though, unfortu-

nately, no autopsy could be obtained. In the other, operation revealed an enormous cyst of the liver. The condition in which the reaction is most strongly positive is passive congestion, and the test may be easily demonstrated in any case of failing compensation. Cirrhosis of all kinds, catarrhal jaundice (now thought to be a toxic infection of the liver and not merely an obstructive phenomenon), acute diseases like atrophy, degenerations of all kinds, and poisons such as chloroform and phosphorus will all give a positive reaction; in fact any condition in which even a small number of liver cells is defective.

It is unwise, in view of the many tests which have from time to time appeared, and which more extended experience has shown to be worthless, to claim too much for the aldehyde reaction. My own experiments lead me to believe, however, that we have in it an unusually simple and apparently reliable method of obtaining information about an obscure region, the only other means at our disposal entailing complicated and laborious investigations and estimations, or a method which now-a-days frequently obtains an unjustifiable adoption—that of "look and see."

ART. III.—A ('ase of Pneumo-typhoid Fever. By SIR JOHN MOORE, M.A., M.D., D.P.H., Dubl.; D.Sc. (Honoris ('ausá), Oxon.; F.R.C.P.I.; Senior Physician to the Meath Hospital and County Dublin Infirmary; Professor of Medicine, R.C.S.I.; Hon. Physician-in-Ordinary to H.M. the King in Ireland.

By the term "Pneumo-typhoid Fever" is to be understood, strictly speaking, a case of fever of which the exciting cause is an infection with the *Bacillus typhosus* of Eberth, but in which the localisation takes place in the lungs rather than in the intestines. The condition is not, therefore, to be confounded with the so-called "Typhoid Pneumonia," in which an attack of acute pneumonia is complicated by the supervention of that group of sym-

ptoms—indicating profound prostration of the nervous and muscular systems—to which the name "the typhoid state" or "the ataxic state" has been given. The expression is precisely analogous to the term "Splenotyphoid fever"—that is, typhoid or enteric fever, in which the brunt of the poisoning falls on the spleen.

In a wider sense, "Pneumo-typhoid" is applied to an intercurrent attack of pneumonia in enteric fever, the exciting cause of which complication may be the *Diplococcus pneumonia* of Fränkel and Weichselbaum, or any other pneumonia-producing organism.

The following case seems to me to afford a typical example of pneumo-typhoid fever in the former proper and peculiar sense of the term.

At a late hour on the evening of Sunday, October 26, 1913, I was asked by my future patient's brother to admit his sister to the Meath Hospital under my care as she was lying very ill in lodgings in Rathmines, and had neither doctor nor nurse to attend her. Before acceding to his request I explained that it was necessary for me to see the patient in order to ascertain what was the matter with her, and whether she was in a fit state to be removed to hospital. Accordingly, we went together to the patient's lodgings.

Annie M. was a girl of twenty-one years of age, a book-keeper by occupation. She told me that she had taken ill on the previous Thursday, October 23, and that she had had no medical or nursing attendance up to the time of my visit. She was flushed. Her temperature was 104.4°, pulse 112 to 120, respirations 28 to 36 per minute. The tongue was thickly coated. She had cough, but there was no expectoration. Physical signs of a left basic pneumonia were present. There was an extensive area of dulness on percussion, crepitations and sibilant rhonchi were heard. My opinion was that the young woman had an attack of left basic pneumonia, but in conveying it to her brother I said I could not be sure that the fever would not run on. I notified the case as one of "Continued Fever (pneu-

monic)," and had her removed at once in the Rathmines Ambulance to the Epidemic Wing of the Meath Hospital. For three days her temperature ranged between 103.2° and 104.8°, albumen appeared in the urine, and there was some delirium. The spleen now became enlarged, being felt on palpation just below the ribs. The chest signs, however, subsided on the left side—dulness lessening, and that part of the lung manifestly clearing. But physical signs now showed themselves over the right base, and the first sound of the heart became faint and muffled. Half a dozen rosespots were detected on the skin on October 30th (eighth day of the illness). The report as to a Widal reaction on that day was:—" Motility stopped in 30 minutes with a 1 in 50 dilution, but there was no clumping in two hours."

The pyrexia henceforward subsided by lysis, and after a passing rise of temperature to 100° on the evening of the fourteenth day a period of apyrexia followed, lasting for seven days. During this time the temperature was subnormal morning and evening, the range being from 96.3° to 98.0° only. A second Widal test was made on November 7th (sixteenth day), when motility stopped immediately with a 1 in 40 dilution, and clumping occurred in one hour. The test was also tried with a 1 in 60 dilution with the like positive result. During the apyrexial period the pulse-rate ranged between 80 and 100, the rate of breathing between 20 and 24.

Towards evening, on November 13th—the twenty-second day from the onset of illness—the patient shivered, and her temperature rose at 6 p.m. to 101°. This was the beginning of a "relapse." Fever rapidly increased to 104.6° on the evening of the sixth day of this fresh attack (twenty-eighth day from the onset) (November 19th). The pulse rose to 128, and the respirations to 32. The heart fell away again in strength, but no intestinal symptoms showed themselves. A considerable bronchial catarrh, evidenced by râles and rhonchi, cough and some sputum accompanied this second access of fever. A defervescence by lysis followed, all pyrexia disappearing on the four-

teenth day of the second attack (the thirty-fourth day of the whole illness). Convalescence now went on without Two remarkable features in this stage let or hindrance. were—(1) A persistently subnormal temperature—from November 28th (thirty-sixth day) to December 9th (fortyseventh day) the thermometer placed in the axillary never rose above 97°; from December 9th onwards the axillary temperatures ranged between 96.6° and 98.3°; (2) marked bradycardia, both the heart-beat and the pulse ranged only from 48 to 64 when examined by me. From beginning to end of the illness there was not the slightest anxiety on the ground of intestinal mischief. The patient left the hospital for her home in the County Meath quite recovered. well, strong, and in good spirits on Monday, December 22nd

The medical treatment was of the simplest kind. Obstinate constipation in the first fever was treated with an initial dose of 2 grains of calomel, followed by enemata, and finally by small doses of castor oil and glycerine in milk. From October 27th urotropin was given in 5-grain doses every four hours (while awake) for a few days. When admitted, ammoniated tincture of quinine, tincture of nux vomica, and syrup of orange peel were prescribed.

In the "Text-book of the Eruptive and Continued Fevers," published in 1892, I mention (page 361) the case of a young woman, who was under my care in the Meath Hospital in November, 1891. She passed characteristic typhoid stools and her urine gave a striking reaction with Ehrlich's diazo-benzene-sulphonic acid colour test. But her illness had begun with right apex pneumonia, the symptoms being rapid breathing, cough, glutinous sputum (not, indeed, deeply coloured when the patient was first seen by me); while the physical signs were dulness on percussion, and, finally, the most typical crepitus redux.

In his description of typhoid fever, with which the eighth edition of "The Principles and Practice of Medicine" (1902) opens, Sir William Osler, Bart, M.D., F.R.S., writes as follows:—

"Lobar pneumonia is met with [in typhoid fever] under two conditions:—

"(a) At the outset, the pneumo-typhus of the Germans. This occurred in three of our cases. After an indisposition of a day or so, the patient is seized with a chill, has high fever, pain in the side, and within forty-eight hours there are signs of consolidation and the evidences of an ordinary lobar pneumonia. The intestinal symptoms may not occur until towards the end of the first week or later; the pulmonary symptoms persist, crisis does not occur; the aspect of the patient changes, and by the end of the second week the clinical picture is that of typhoid fever. Spots may then be present and doubts as to the nature of the case are solved. In other instances, in the absence of a characteristic eruption, the case remains doubtful, and it is impossible to say whether the disease has been pneumonia, in which the so-called typhoid symptoms have developed, or whether it was typhoid fever with early implication of the lungs. This condition may depend upon an early localisation of the typhoid bacillus in the lung.

"(b) Lobar pneumonia forms a serious and by no means infrequent complication of the second or third week—in 19 of our cases. It was present in over 8 per cent. of the Munich cases. The symptoms are usually not marked. There may be no rusty sputum, and, unless sought for, the condition is frequently overlooked. The etiological agent in these cases is still in dispute." (Loc. cit., page 27.)

Again, in the article on Enteric Fever in Volume I. of Allbutt's and Rolleston's "System of Medicine" (1905), Profesor Julius Dreschfeld writes (pages 1106 and 1107): "The first symptoms may be those of pneumonia, and only after some days the typhoid symptoms (diarrhæa, enlargement of spleen, roseola) present themselves. These cases are known as pneumo-typhoid, and, as in some of them the typhoid bacillus has been found in the pneumonic lung, the condition is probably, in some of the cases at least, enteric fever in which the typhoid bacillus estab-

lished itself first in the lungs; in other cases we probably have to do with two coincident affections—pneumonia and enteric fever (Chantemesse a)."

The bacteriology of severe lung complications during typhoid fever has been investigated by Dr. Stefanelli, of Florence (Journal of Clinical Research, May, 1909). He found that out of fifteen patients suffering from typhoid fever and from intercurrent lung trouble, two had severe diffuse bronchitis, ten had broncho-pneumonia, and three had lobar pneumonia. The sputum contained the Diplococcus pneumonia in every instance, and the Bacillus typhosus in six out of the fifteen cases. "The importance of this from the point of view of the modes of spread of the disease is obvious—it must be dangerous to have a case of typhoidal pneumonia coughing in proximity to another patient's bed. It is also of importance from the point of view of treatment; for the vaccine treatment of pneumonia requires a precise knowledge of the bacteriology of the lung trouble in each individual case." In my patient's case there was no expectoration in the first fever movement. In the second attack, or relapse, the sputum resembled that of an ordinary bronchial catarrh. Unfortunately it was not examined bacteriologically.

^a La Presse médicale, 1904. British Medical Journal, 1904. Vol. II. P. 1268.

A FORENSIC MEDICINE "HOWLER."

QUESTION.—" How would you tell that a newly-born infant was mature (i.e., had arrived at full term)?" Answer.—
"In a mature child, as a rule, there is a descent of the testicle. But, of course, the rule does not hold good, for even in adults the testicle does not descend at all. Hair under the arms is another way—also hair on the pubes." When interrogated about his answer, the candidate explained it by saying that he intended to use the word "down" instead of "hair."

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

YEAR-BOOKS FOR 1914.

- 1. An Almanack for the Year of Our Lord 1914. By JOSEPH WHITAKER, F.S.A. London: 12 Warwick Lane, Paternoster Row, E.C. 8vo. Pp. v + 1065.
- 2. Whitaker's Peerage, Baronetage, Knightage, and Companionage for the Year 1914. London: 12 Warwick Lane, Paternoster Row, E.C. 8vo. Pp. lxxxviii + 867.
- 3. The International Whitaker: A Statistical, Historical, Geographical and Commercial Hand-book for all Nations: more especially designed for the 200,000,000 English-reading People of the World. London: 12 Warwick Lane, Paternoster Row, E.C. New York: The International Press Co., 83 Duane Street. 8vo. Pp. xlviii + 511.

ALL that the reviewer has to do in the case of these three popular and useful annual publications is to call attention to any new features in the contents of the several volumes.

1. "WHITAKER'S ALMANACK" has been increased in size by 32 pages. Additions to the general statistical tables and summaries have been made, and several articles on matters of current interest are included—such, for example, are housing and town planning under the Act of 1909 (page 510), unemployment (pages 511 and 697), health insurance (511), Labour Exchanges (228, 512), increase in the cost of living (food and clothing) (512, 513), and the approximate effect on the purchasing power

of the pound sterling, Friendly Societies (518, 519), and so on. Articles have also been inserted on Land Banks, Cooperation and Co-partnership, the National Health Insurance Amendment Act, Aëronautics, Cable and Wireless Telegraphy, and the Provisions of the Irish Home Rule Bill (page 535 et seq.). The "Date Marks on Gold and Silver Plate" have been restored (page 850) at the request of many collectors.

We are gratified to find insertion courteously given to some corrections made by ourselves after last year's Almanack was published. But at page 86 the word "vernal" still remains in error for "autumnal"; and at page 509 the "Hunter's Moon" is wrongly "defined as the full moon which happens on or nearest to the Vernal Equinox." It is, in reality, the full moon which follows the "Harvest Moon," and it may be described as the October Full Moon.

2. Ix his preface, the Editor of "Whitaker's Peerage" refers to the comparatively sparing distribution of "Honours" in 1913. If rumour prove not a lying jade, the Editor will not be able to say the same of 1914—however, we shall have to "wait and see."

In this, the eighteenth edition, the attempt has been made for the first time to distinguish between those entitled by birth or marriage (including Maids of Honour) to the prefix "Hon.," and the increasingly large number of persons who have acquired by public service the right to this distinction, which in their case is now printed in italics.

This "Peerage" is an indispensable work of reference, its value being enhanced by its comparatively moderate cost—only five shilings.

3. The "International Whitaker" has evidently already made its mark, although this is only the second year of publication. Its extremely modest price (two shillings in the United Kingdom) also is bound to make it a favourite. Its contents are historical, as well as geographical, economic, and commercial, and many correspondents have

suggested that no better "self-educator," or universal school geography has yet been published. It is, of course, largely a reprint of those parts of Whitaker's Almanack which deal with the subjects about which it directly treats.

The Administrative Control of Smallpox: How to Prevent or Stop an Outbreak. By W. McC. Wanklyn, B.A. Cantab., M.R.C.S., L.R.C.P., D.P.H.; Fellow of the Royal Society of Medicine; Fellow of the Society of Medical Officers of Health; and formerly Referee in the Diagnosis of Smallpox, and Medical Superintendent of the River Ambulance Service (Smallpox) of the Metropolitan Asylums Board. London, New York, Bombay, and Calcutta: Longmans, Green & Co. 1913. F'cap. 8vo. Pp. ix + 86.

In his official capacity as Medical Superintendent of the Thames Smallpox Ambulance Service, Dr. Wanklyn enjoyed singular opportunities of learning how to deal with outbreaks of that terrible disease. He has written this book and a companion work on the "Diagnosis of Smallpox" with a like object—that, namely, of contributing to its prevention.

The book contains ten chapters. The first is a general review of the case as it stands in regard to smallpox in the United Kingdom and in many other communities. The second deals with some points in the natural history of the disease. Then in sequence follow chapters on details of administration, the intelligence department, other practical details, the observation of contacts, and vaccination. On this last subject he expresses his opinion in no uncertain terms. He writes (page 60):—"First as to the efficacy of recent and successful vaccination, a matter upon which I have known doubt expressed even by medical practitioners themselves. Any one who is recently and successfully vaccinated cannot, by any loss of health, by any degree of exposure, or by any possibility of any kind at all, contract smallpox. There is not the slightest risk. If it were possible to conceive of a recently and successfully vaccinated millionaire, who wanted to have experience of the disease in his own body, all his millions could

not possibly gratify his wish."

This is strong language, but it savours of dogmatism—a thing to be shunned in scientific circles. We have taught successive generations of medical students that in Medicine the words "always" and "never" have no place. While we thus criticise Dr. Wanklyn's hyperbolic language, we are in thorough accord with him in regarding recent and successful vaccination as the most potent preventive of the most catching of all diseases.

Dr. Wanklyn answers in an interesting and instructive way the question:—Up to what day in the incubation period [of smallpox] may vaccination be performed so that security results to the vaccinated person? From his experience he concludes "that vaccination, if it was to protect the patient, must have been performed within the first three days of the incubation period. When performed on the fourth day, it did not avert the attack, though it modified it. It is, therefore, very desirable to get contacts vaccinated or re-vaccinated without the slightest delay." Dr. Wanklyn's experience on this point corresponds exactly with the opinion expressed in Reynold's "System of Medicine" by Mr. Marson, who was Resident Medical Officer of Highgate Smallpox Hospital for many years.

In Chapter X, there is a useful recapitulation of the administrative measures which should be taken with the view of controlling an outbreak of smallpox in a district. "Instant action must be taken; personal attention must be given; there must be a well-thought-out plan; success depends on the closest attention to details, and on no detail being allowed to escape notice." (Page 79.)

We conclude this notice of an important contribution to the literature of smallpox and of Preventive Medicine with

the subjoined extract :--

"The following is a striking example of how on one occasion smallpox was introduced into this country. It was related on July 13th, 1900, to members of the Epidemiological Society by Mr. T. W. Russell, M.P., then Parliamentary Secretary of the Local Government Board. He said:—'I had a most extraordinary case before me

vesterday, in which I am sure every one here will be interested. A deputation came to see me from Lancashire, representing several large towns, in connection with the spread of smallpox of a special character. There had been something like 100 cases in these Lancashire towns within the last few months; and the story as detailed to me vesterday. I confess, interested me, and will probably interest the members of this Society. It appears that a man left Moscow, in Russia, intending to travel to Staleybridge, in Lancashire. He was ill when he left; he arrived at Flushing: and when the vessel was boarded by the medical officer the captain reported that there was no sickness. The man came on to Queenborough, landed there, and it was noticed that he had to be carried through the baggageroom on a chair; but he accounted for that by declaring that he was suffering from rheumatism, and could not walk. He was put into the train, and travelled to Manchester, and from Manchester to Staleybridge, where he died the day after his arrival from virulent smallpox. The interesting point is, that almost every one who travelled with him in the compartment from Queenborough to Manchester took smallpox: the ticket collector at Manchester took smallpox; those who travelled with him from Manchester to Stalevbridge in another train took smallpox; and something like 100 people, I think, had smallpox spread by means of this simple case. The real question is: Could that have been prevented? Well, that is exactly the crux of the situation."

Our answer to the Right Honourable gentleman's question is that such a tragedy as that so graphically described by him could and should have been prevented.

Surgery, Gynæcology, and Obstetrics, with International Abstract of Surgery.

This is one of the most valuable journals published in the English language for the surgeon or gynacologist. One of its most interesting features at present is the International Abstract, which includes every important branch of surgery carefully arranged under different headings, such as—

"Anæsthetics, Surgery of the Head and Neck, Surgery of the Chest, Abdomen, Orthopædic Surgery, Nervous System, Gynæcology, Obstetrics, Genito-urinary Surgery, Surgery of the Eye and Ear, Surgery of the Nose, Throat, and Mouth."

The number before us is the first number of Volume XVII. The Journal itself consists of 136 pages, comprising many articles of vast interest and importance to the profession in general, and the illustrations are numerous and beautifully executed. The International Abstract consists of 132 pages, also illustrated where necessary.

We can strongly and confidently recommend this journal to all surgeons, gynecologists, and general practitioners as worthy of their support and careful study.

Feeding and Care of Baby. By F. Truby King, M.B., B.Ch. (Public Health), Edin. Issued by the Society for the Health of Women and Children. London: Macmillan & Co. 1913. Demy 8vo. Pp. 162.

Doctor Truby King is the Medical Superintendent of Seacliff Mental Hospital, the Government of New Zealand's Lunatic Asylum. His experience in that institution of the enormous amount of mental and physical failure resulting from the improper management of infants during the earliest months of their lives so impressed him that for some years past he has devoted his spare time and energies to the amelioration of their condition.

He founded a "Society for the Health of Women and Children," the work of which has been distinguished by three special features—The Plunket Nurses, the Karitane Baby Hospital, and the book under consideration.

The Plunket nurses were so named as a tribute to the interest shown in the work of the society by Lady Plunket, wife of the then Governor. At its commencement, by her active co-operation, by lecturing and holding meetings, she enlisted a large amount of public interest, and helped to establish several of the earliest of these nurses. The Plunket nurses are fully trained medical and surgical

nurses, who, in addition, have passed through a special course in the Baby Hospital, and are then placed in different centres, wherever public support for them can be obtained. They work like district nurses, but attend only to the infants. There are at present more than twenty of these nurses at work in New Zealand, and the Karitane Hospital cannot train them fast enough to supply the demand. The Government of New Zealand have shown their interest in the movement not only by contributing to the nurses' support 24s. for every 20s. subscribed locally, but they have sent Dr. King to Europe and America to investigate the latest methods in the treatment of infants. As regards results, the infantile death-rate, already very low in New Zealand, has sunk from 82.8 per 1,000 to 56 per 1,000 in 1912.

The book itself was compiled by Dr. Truby King as a text-book for the Plunket nurses and to help mothers in the management of their infants. And of the very large number of books of the kind on sale at present we do not know of one so suitable to such purposes as this one. It has had a large sale in New Zealand, and we have no doubt that this English edition, which is really a third edition of the work, will be equally successful in the United Kingdom.

The Elements of Bacteriological Technique. By J. W. H. EYRE, M.D., M.S., F.R.S. (Edin.). Second Edition. Philadelphia and London: W. B. Saunders & Co. 1913. 8vo. Pp. 518.

The new edition of this work is a worthy successor of the first edition. It has been enlarged and re-written, with many new additions in bacteriological technique. No apology is needed for such a work, which is useful to all bacteriologists and clinicians interested in laboratory work. The additions are mainly new methods which have been well tried and not found wanting.

The chapter on staining is good, though we would like some mention of the use of some generally employed

stains—e.g., Giemsa's, Wright's, &c. There is a brief though adequate section on tube-embedding and mounting. The chapter dealing with media is especially complete and up-to-date. We wonder that the author did not see fit to include the method of preparing media for the growth of spirochætæ.

There is a most useful chapter on animal inoculation and post-mortem examination, which will be especially useful to men beginning laboratory work. The various immunity reactions are dealt with shortly, but withal

adequately.

We have no hesitation in recommending this book to all laboratories as a book of reference.

Tropical Medicine and Hygiene. By C. W. Daniels, M.B. Cantab., F.R.C.P., Lecturer in Tropical Diseases, London Hospital, &c. Part I. Diseases due to Protozoa. Second Edition. London: John Bale, Sons & Danielsson. 1913. Demy 8vo. Pp. xv + 277. With 2 Coloured Plates and 73 Figures.

The appearance of the first volume of a new edition of Daniels' Tropical Medicine reminds us of the advances that are constantly being made in our knowledge of the special diseases of tropical countries, in which a great number of men are at present busily engaged in their investigation. Yet we must remember that tropical medicine is not to be divided by a hard and fast line from the medicine of temperate regions, but that the methods, which have produced such epoch-making and widespread changes in the health of the tropics, may produce equally good results if systematically and carefully applied at home.

The most noticeable feature of books on tropical diseases is the large space given up to zoology, as not only is it necessary to understand the life-history and relationships of the disease-causing parasites, but also those of their intermediate hosts. Thus the book under review classifies tropical diseases into those caused by

protozoa, by metazoa, by bacteria, and by certain animal and vegetable poisons, and those whose cause is still unknown or imperfectly understood. This volume contains the protozoal diseases, and in each case the causal parasites, the carriers, and the diseases themselves are described and a fairly full description is given of the treatment and prophylaxis.

There is not apparently very much that is new in this volume, although on the whole the work seems to have been brought up-to-date. The causes of several diseases such as blackwater, dengue, and yellow fevers—are still unestablished, and are included in this group only by analogy. Perhaps, by the time the next edition appears, pellagra may have joined them. We notice that the author still adheres to the theory that blackwater fever is somehow connected with malaria. The tendency of some modern work is towards the belief that it is a disease sui generis. According to recent reports from West Africa, it seems probable that the statement that this disease is not found in early childhood or in the negroes native in a district where it is endemic, will turn out to be mistaken, and that a large number become immune as a result of mild attacks early in life, as apparently happens in yellow fever and to some extent in malaria.

The Practical Medicine Series, comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Charles L. Mix, M.D. Volume VII. Obstetrics. Edited by Joseph B. De Lee, A.M., M.D., with the collaboration of Herbert M. Stowe, M.D. Chicago: The Year Book Publishers. 1913. Pp. 232.

THE original work in obstetrics which has been accomplished during the past year has not escaped the notice of Dr. De Lee. In recommending this compact year book to the Profession we can only reiterate the favourable opinion which we expressed of "Gynæcology" of this series in a previous number.

Much attention has been paid to sero-therapy. Different investigators have had entirely different results from injection of feetal serum into the pregnant woman. The Abderhalden test for pregnancy has never been negative in a known pregnancy, but, on the other hand, the serum of pregnancy reacts with tissues other than placenta, and even with other than human tissues. There has been some success with subcutaneous injections of normal human serum, horse serum, or serum from another pregnant woman, in cases of uncontrollable vomiting. The Editor wisely names the toxemias cryptogenetic. Salvarsan has been given to luetic pregnant women with results which would lead one to continue the trial.

Many cases of artificial impregnation have had satisfactory terminations.

As in previous years, eclampsia claims much notice, and the breasts have been selected as the possible nidus of infection. The breasts have been "milked," injected with iodine, amputated, injected with sterilised air, massaged and treated by means of Bier's hyperæmia cups. We should like to see more clinical evidence of the efficacy of these different methods. The pituitary body is lauded and condemned.

Reports from the Laboratory of the Royal College of Physicians, Edinburgh Edited by George Lovell Gulland, M.D., and James Ritchie, M.D. Vol. XI. Edinburgh: Oliver & Boyd. 1913.

The present volume of Reports contains contributions of workers up to the end of 1912. The actual number of papers is twenty-six, and, with few exceptions, they have all been published before, so that the present volume, like its predecessors, is to be regarded as a collection made for the purpose of presenting in handy form the work of the Edinburgh School. It certainly reflects credit on the school, as many of the contributions reach a high level of merit, and collectively they cover a large field. The papers are grouped under the four hadings of Andorage

Pharmacology, Pathology and Bacteriology, the last two headings, including by far the largest number, is just 21 out of a total of 26 contributions. It is, of course, impossible to refer to the papers individually, but one may mention as of special interest those on Tuberculosis of Bone by Frazer, and a paper by Wilkie on Venous Embolism as a cause of Duodenal Ulcer. The volume should be of special interest to old Edinburgh students, and is well worth obtaining.

Lectures on Medical Electricity to Nurses. An Illustrated Manual. By J. Delpratt Harris, M.D. Durh., M.R.C.S.; Senior Surgeon and Honorary Medical Officer in Charge of the Electrical Department, Royal Devon and Exeter Hospital. With Twenty-three Illustrations. London: H. K. Lewis. 1913. Cr. 8vo. Pp. xii + 88.

The explanation to hospital nurses of the elements of electricity and of electrical instruments, and the principles of their use in treatment is by no means an easy task. Nevertheless we cannot but feel that a much better result might have been obtained even in the small compass of such a book as this.

On the whole the directions to nurses as to the care of instruments are good, but the explanations unsatisfactory.

Thus electromotive force is defined as a measure of the pressure of electricity, but no analogy is given to help the reader as to what is meant by electrical pressure. This, however, is not an incorrect definition as is that of ampères, which are defined as "the quantity of current that has been driven through by the pressure of the volts." Ampères denote rate of flow, not quantity of current. We doubt if any nurse unfamiliar with graphs, and electrical currents would gain anything from the short account of the former given on page 19. So, too, an explanatory diagram or short note is required to enable the reader to understand the mode of action of "current reversers." On pages 30 and 31 we read that "a battery of accumuators, the rheophores of which were allowed to touch by

naked metal, would heat," &c.; and again, "the terms kathode and anode were originally used to denote currents coming from," &c.; and "when we attach a wire to the zinc . . . we speak of that wire as the negative vole." Similar inaccuracies of fact and grammar are profuse throughout the book. The third paragraph on page 37 is vague in meaning and ungrammatical in construction. We dislike, though in a lesser degree, such expressions as "an almost quite dark room;" "the fluorescent screen for x-ray work is taken to mean . . . "; " the patient will fairly sparkle and glow; " " to glow of a greenish-yellow colour." On page 63 we are told that "the bones and viscera inside a living subject are similarly held as fruit in a jelly"! The paragraph at top of page 67 would certainly seem to imply that radiography of a limb in plaster of Paris was impossible.

Such instances of slipshod style and grammar and inaccuracies with regard to facts are evidence of insufficient care. We cannot but feel that the author has underrated the difficulties of his task, nor can we congratulate him on the result, or recommend it as a book suitable to the requirements of nurses doing electrical work.

(The italics throughout are our own.)

The Tuberculosis Year Book and Sanatoria Annual. Edited by T. N. Kelynack, M.D. Volume I. 1913-1914. London: John Bale, Sons & Danielsson, Ltd. Pp. 476 + lxxxv.

A NEW department of the Public Health Service has come into being, and tuberculosis officers are undertaking their duties all over the Kingdom. Order is gradually being evolved from the chaos which followed the passage of the Insurance Act, and the time is opportune for the appearance of a Year Book dealing with tuberculosis.

When Dr. Kelynack takes work in hands we expect that it will be well done, and a study of his latest venture does not falsify our anticipations. We find in its pages details of the tuberculosis schemes of many counties and county boroughs, descriptions of sanatoriums and plans of sanatorium buildings. The original communications and critical surveys cover practically the whole field of recent work in regard to the subject, and form an intensely interesting and valuable contribution to the literature of tuberculosis,

Dr. Kelynack is to be congratulated on the success of his first Annual and the publishers on the manner in which the book has been produced.

Diseases of the Heart. By James Mackenzie, M.D., F.R.C.P., LL.D. Ab. and Ed., F.R.C.P.I.; (Hon.) Physician to the London Hospital. Oxford Medical Publications. Third Edition. London: Henry Frowde; Hodder & Stoughton. 1913. Royal 8vo. Pp. xxiii + 502.

It was with much pleasure that we received and read this, the third, edition of Mackenzie's classical work on "Diseases of the Heart." The book is so well known, in spite of the fact that the first edition appeared only a few years ago, and its unique place in modern medical literature is so well established that no lengthy review is required to commend it.

Dr. Mackenzie's name is chiefly associated with instrumental methods of cardiac examination, more particularly in regard to the elucidation of the varieties of cardiac irregularity. It is important, however, to point out, as the author himself does, that many of these irregularities may be recognised without the use of the polygraph or other instruments, and that the best method of acquiring the power of doing so is by careful study of a book of this sort. Instrumental methods are described in detail, but once mastered in theory the reader is in a position to understand much that was before obscure in clinical work, without ever invoking instrumental aid.

Another great characteristic of this work is its broad common sense, combined with unusual clinical acumen. Almost every page contains some aphorism based on wide clinical experience: the chapters on angina pectoris are

especially valuable, and do much to clear up the haze which has so long befogged the medical mind in regard to cardiac pain. The chapters on treatment are also useful. though the reader will probably be disappointed to find that digitalis is practically the only drug that the author appears to have any faith in. As we owe to him the differentiation of the types of case which are especially liable to benefit by digitalis, we should not, however, be ungrateful. Though mercury is mentioned, however, one feels that the author has hardly had the experience with this drug that we would have expected: this, indeed, seems to be the rule with English physicians. In Ireland the use of mercury in cardiac disease with severe ædema has long been extolled in many important clinical papers: combined with digitalis in the well-known Baillie's pill it will undoubtedly produce rapidly a diuresis and disappearance of ædema that cannot be obtained by digitalis alone. We commend a study of the drug to the investigators at Mount Vernon Hospital.

Metropolitan Water Board—Seventh Annual Report on the Results of the Chemical and Bacteriological Examination of the London Waters for the Twelve Months ended 31st March, 1913. By Dr. A. C. Houston, Director of Water Examination, Metropolitan Water Board.

Ninth Research Report. By Dr. A. C. Houston, Director of Water Examination on Search for certain Pathogenic Microbes in Raw Water and in Crude Sewerage.

The study of the water supply of London since the formation of the New River Company three hundred years ago is a romance in itself. When one considers the immense population supplied in great part from the Thames and Lee Valleys, and the contamination incident to the sources of supply, one realises the grave responsibilities which rest on the Metropolitan Water Board, and more especially on Dr. A. C. Houston, the Board's Director of Water Examination. How these responsibilities are faced may be

gathered from a perusal of the two reports before us. That the work is well done is evidenced by the lowness of the death-rate of London, especially in regard to water-borne disease. How many of those who live in London or of those of us who visit the metropolis appreciate the fact that every drop of water supplied by the Board has at some point to be pumped, that its purity depends in a great degree on efficient storage, and that this storage is antecedent to filtration. This question of storage may be regarded as the essential feature of Dr. Houston's system. In it three factors are at work in regard to bacterial contamination—sedimentation, devitalisation and equalisation (i.e., "pooling").

Thus while 89.6, 54.7, and 10.7 per cent. of the samples of raw Thames water contain typical B. coli, the stored prefiltration waters if mixed would be such that on an average about one-third of the samples would contain no

typical B. coli in 10 c.cs. of the water.

In the Research Report, Dr. Houston answers the question "Where is the typhoid bacillus?" by saying that "the home of the typhoid bacillus is not so much in impure water or even in the crude sewage from a large community as in the factories of the disease, as exemplified by the 'carrier' case."

Here we are brought face to face with the advisableness of the storage of all waters liable to contamination from the "carrier."

The British Journal of Surgery. Under the Direction of an influential Committee of leading Surgeons, with SIR BERKELEY G. A. MOYNIHAN as Chairman, and MR. E. W. Hy. Groves, of Bristol, as Editorial Secretary. Vol. I. No. 2. October, 1913.

This number opens with a short account of John Hunter, which is accompanied by a reproduction of a photograph taken from the painting of John Hunter by Sir Joshua Reynolds in the Royal College of Surgeons, London.

Like the first number, the articles in this one are varied and of considerable surgical interest and importance.

Sir John Bland Sutton contributes an excellent and comprehensive article on "The Surgery of the Spleen."

Communications on "Intramural Extension in Rectal Cancer," "A Case of Sellar Decompression," "Review of some of the usual factors involved in operations on the Hypophysis Centre," "Improved Route of Approach to the Gall-bladder," "Clinical picture of Congenital Abscess of the Fibula," "Sarcoma of the Nose," "On a Series of 48 Nephrectomies with four deaths," "Recent Advances in the Surgery of the Lung and Pleura," "The Anatomy and Treatment of Cleft Palate," "Instructive Mistakes," "Short Notes of Rare and Obscure Cases."

There are almost 200 pages in this number, which, like its predecessor, is beautifully printed and nicely illustrated. So far we have nothing but praise for this journal.

Hygiene and Public Health. By Louis C. Parkes, M.D., D.P.H. Univ. of Lond., Consulting Sanitary Adviser to H. M. Office of Works, late Civilian Sanitary Member of the Advisory Board for Army Medical Services. Medical Officer of Health of the Metropolitan Borough of Chelsea, Examiner in Public Health to the Royal Colleges of Physicians and Surgeons, London, Fellow of the Royal Sanitary Institute: and Henry R. KENWOOD, M.B., F.R.S. Edin., D.P.H. Lond., Chadwick Professor of Hygiene in the University of London, Medical Officer of Health and Public Analyst of the Metropolitan Borough of Stoke Newington, and Medical Officer of Health for the County of Bedfordshire, Examiner in Public Health to the Royal Colleges of Physicians and Surgeons, London, Fellow of the Royal Sanitary Institute. Fifth Edition, with Illustrations. London: H. K. Lewis. 1913. Demy Svo. Pp. xii + 736.

Only two years have elapsed since the previous edition of this well-known work was published. The present edition has evidently been carefully revised and brought up-to-date. For example, at page 361, there is a reference to Dr. J. Lane-Clayton's Report to the Local Government Board on the boiling of milk dated 1913. Again, the Public Health (Tuberculosis) Regulations, 1912, are given at page 488, and these are followed by a précis of the sanatorium provisions of the National Insurance Act, 1911, together with an account of the recommendations of the Departmental Committee appointed by the Government in 1912, to consider and report upon the problem of tuberculosis in the United Kingdom in its preventive, curative, and other aspects.

But it is in chapter IX. that we meet with the most important proofs of the care with which the authors have prepared the present edition. That chapter contains the latest views on the subject of "Immunity," and in their brief preface Drs. Parkes and Kenwood acknowledge their indebtedness to Dr. Elizabeth Fraser's Manual of Im-

munity for their article on this difficult question.

The same chapter includes a section on "Communicable Diseases." The authors recognise the grave nature of measles and whooping-cough. Of the latter plague of childhood they write (page 453): "Whooping-cough is now the most fatal of all the infectious complaints of childhood under the age of five years." Notwithstanding they make no suggestion to the effect that it should be notifiable, and under the heading "Measles" they content themselves with saying: "It may be useful to bring measles under the Notification Act in rural districts and in small isolated communities, if in these cases every advantage is taken of the information thus obtained to detect unnotified cases, and the means of hospital isolation are provided: but in larger communities, especially when not adopted in neighbouring districts, the measure is not to be recommended." We know the difficulties which attend the notification of measles, and nevertheless we hold that it and whooping-cough should be notifiable diseases simply because they—with summer diarrhea are the most fatal of the ministers of death in early life. The italics are ours in the above quotation.

The only other criticisms we would venture to make are that some of the figures in the chapter on Statistics are not the latest which were available. They are not later than 1910, and the Census of 1911 is only incidentally mentioned at page 652.

Lastly, we dislike such modern Latin plurals as "contagia," "sera;" and "impetigo contagiosum" (page 580) should be, of course, "impetigo contagiosa."

Guide to the Microscopic Examination of the Eye. By PROFESSOR R. GREEFF, with the co-operation of PROFESSOR STOCK and PROFESSOR WINTERSTEINER. Translated from the Third German Edition by Hugh Walker, M.A., M.B., C.M. London: The Ophthalmoscope Press. 1913. Pp. xvi + 86.

In securing the experience of Professors Stock and Wintersteiner, Greeff has added to the value of his work in producing his third edition. Having worked along the lines set out in the former editions, we can vouch for the reliable information to be found therein. To those "going in" for eye pathology we can strongly recommend the book, for it is easy to find oneself in a dilemma of disappointment and with a hopelessly spoiled specimen unless we follow the technique laid down for the treatment of this special section of pathology. All details as to procuring, fixing, dividing and staining are set out in a brief and reliable way. There is a short appendix dealing with the bacteria most commonly found in eye diseases, which will be found useful to many.

The translation by Dr. Hugh walker, of Glasgow, has done much to popularise Professor Greeff's work. It has been excellently produced by the publishers.

Sciatica: a Fresh Study. By WILLIAM BRUCE, M.A., LL.D., M.D. (Aber.). London: Baillière, Tindall & Cox. 1913. Cr. 8vo. Pp. xii + 175.

That this condition may be in some cases merely a symptom and not a disease per se has long been an accepted

truth in clinical teaching. We think, however, few of his readers will be prepared to follow Dr. William Bruce to his conclusion that all such cases are due to "trouble in the hip-joint," and this is apparently the main object of the monograph which lies before us. Indeed, he anticipates this view in his preface, where he says that the iconoclast who attempts to break down accepted theories is sure to be met with the objection—"Your views are correct enough as regards a certain limited class of cases, but they account only for a small number of selected examples." We must confess that this expresses our own feeling pretty correctly, though we must admit that the excellent presentment of the author's case forces us to believe that we have not suspected this cause sufficiently often.

The skiagrams and pictures of illustrative cases are quite convincing for the particular instances selected, but we doubt they form a minority.

The tedious appendix of cases (occupying exactly half the book) might be omitted without prejudice to the main argument, which we commend to the notice of those entrusted with the care of an often troublesome malady.

The Treatment of Rheumatic Infections. Press of Parke, Davis & Co. 1913. 8vo. Pp. 129.

We feel some doubt as to our attitude concerning this brochure sent us by the above well-known firm. We have no indication whether it is intended for publication by the ordinary channels or whether it will be used to "push" the preparation now probably familiar—by name at any rate—to all our readers—i.e., phylacogen.

If all the similar, but less pretentious, monographs, which reach us personally by every post, are to be forwarded to our office for review our staff may anticipate "overtime."

With regard to the subject-matter, however, there is no doubt that an excellent *résumé* of phylacogen therapy with special reference to rheumatic affections has been provided.

[&]quot;Phylacogen" is "a solution of derivatives of bacteria

grown in artificial media," and the "basic phylacogen" consists of derivatives of various common pathogenic bacteria mixed together—e.g., staphylo- and streptococci, pneumococci, typhoid bacilli, Bacillus coli, &c. Basic phylacogen in thus a polyvalent preparation, and for the treatment of a particular disease a specific phylacogen made from the suspected organism is added in equal quantity.

The substance would, therefore, appear to be a mixture of bacterial exo-toxins—that of the supposed causal organism predominating. The method is founded on the view of Schäfer, of California, that all infections are "mixed," though one species may predominate. Elaborate reports of cases are provided, showing the results of treatment—mostly, however, from the less known

American journals.

The bibliographical list mentions only two British papers recently published in the Lancet. We do not think the method has had much trial in this country, though the results given would appear to justify it. There are, of course, technical points in the administration, and if a fair opinion is to be formed as to its utility it will be advisable to peruse this booklet before commencing the treatment.

Acute Abdominal Diseases. By Joseph E. Adams, M.B., M.S. Lond., F.R.C.S. Eng., Surgeon with Charge of Out-Patients at St. Thomas's Hospital; and Maurice A. Cassidy, M.A., M.D., B.C. Cantab., F.R.C.P. Lond., Physician with Charge of Out-Patients at St. Thomas's Hospital. London: Baillière, Tindall & Cox. 1913. Demy 8vo. Pp. x + 571.

This book will be appreciated chiefly for its clear reference to unusual conditions simulating the more common abdominal catastrophies. Henoth's purpura, embolism and thrombosis of the mesenteric arteries, cyclic vomiting of children, and various other conditions, which are too often overlooked, are well put forward in this volume. Pneumonia very properly gets a foremost place, but we

do not agree that the mimicry in certain cases is so perfect that "laparotomy is inevitable." There is one important omission in the book. Little or no mention is made of acute post-operative lesions. Pulmonary infarction, for instance, after apparent recovery from operation, may lead the unwary to expect some intraabdominal "leak." There is an absence, too, of reference to the rôle of congenital and developmental kinks and membranes in producing acute abdominal disease.

The section on "Intestinal Neuroses" is a departure from the practical common sense which pervades most of the book. Terms such as enterospasm, enteralgia, and the serious description of mucous colic as a secreto-motor-neurosis of the colon are confusing if not unworthy of a modern text-book on abdominal surgery.

We have little belief in cases of attacks of paroxysmal pain occurring regularly with "no evidence of organic disease," and we believe colonic tenderness and spasm are seldom, if ever, explained by "secreto-motor-neurosis"!

Failure to find organic lesions has become less frequent since Lane and others drew attention to previously unrecognised conditions.

The book, however, has many attractions which counterbalance a tendency to conventionality. Reference to it is repaid by a clear description of involved questions.

We can recommend it to all surgeons, and the contents, with a few reservations, may be taught to students as authoritative and accurate.

Materia Medica Notes. By James A. Whitla, L.R.C.P. & S., L.P.S.I. Edinburgh: E. & S. Livingstone. 1913. Cr. 8vo. Pp. 157.

This handy book appeals to us at once as a valuable addition to the medical student's library. "The work," writes the author, "may be considered as being divided into three parts, viz.:—Drugs and their actions: Galenical preparations; Chief therapeutic agents, with prescriptions." The letterpress is admirably clear, and in a few

crisp sentences the author places the student in possession of all necessary facts concerning the various drugs in the British Pharmacopæia, their preparations, uses, and doses.

It is a first edition, and so we do not hesitate to draw Dr. Whitla's attention to certain slips which disfigure his pages while not detracting from the intrinsic value of his book.

"Mellita" (page 6) should certainly be "mella." The former word means "things of honey"—the latter means "honies," as given as an entry in the index. "Elixir of vitriol" is mentioned (page 99) as an ingredient of "infusum cinchonæ acidum." But why use this old term instead of aromatic sulphuric acid (page 87)? In the enumeration of "Animal Products" (pages 49-52) "Adeps" and "Adeps Lanæ" find no place.

There is a curious error at page 6, where, under "Glucosides," we read:—"The Latin termination is—in, the English is—inum." Twelve pages at the end of the book are devoted to an excellent series of prescriptions. They need careful proof-reading, for there are such blemishes in them as—glycerinum pepsinæ, spiritus ammoniæ aromaticæ, spiritus ammoniæ fetidæ, adepis potassi. The contraction "grs." instead of "gr." in a Latin prescription looks badly. These, however, are all minor faults, which may easily be corrected in a second edition, to the early appearance of which we look forward with confidence.

A Course of Lectures on Medicine to Nurses. By Herbert E. Cuff, M.D., F.R.C.S. Sixth Edition. London: J. & A. Churchill. 1913. Cr. 8vo. Pp. vii + 281.

This little work is now in its sixth edition—in itself sufficient testimony to its raison d'être. For its size, it contains a wonderful amount of information, which, without being technical, is accurate and scientific. The style is easy and flowing, making the chapters as pleasant to read as the lectures would be to hear.

Strictly nursing matters occupy a very subordinate place to the general details and descriptions of diseased conditions; consequently, for such information it will be necessary to consult other works, or, even better, to supplement by a good practical training.

We have no hesitation in advising any nurse who takes a real interest in her work to procure a copy; while for those whose duties include the lecturing or training of

nurses it will provide an excellent model.

Aids to Public Health. By David Sommerville, B.A., M.D., D.P.H., M.R.C.P., F.C.S.; Assistant Professor of Hygiene and Public Health, University of London, King's College; Examiner in Chemistry and Bacteriology for the B.Sc. (Public Health), University of Glasgow; Examiner in D.P.H., University of Aberdeen; late Demonstrator in Physiology, St. Thomas's Hospital Medical School. London: Baillière, Tindall & Cox. 1913. Pp. 146.

BOOKS of this type are too often produced for the purpose of enabling candidates to cram condensed facts for examination purposes. This criticism certainly does not hold good in the case of Dr. Sommerville's "Aids to Public Health." An immense amount of solid work has been put into a very small compass. Some of it, perhaps, is outside the sphere of the candidate for the Diploma in Public Health, while it is of more value to those who seek the Science Degree of the modern Universities. The subjects dealt with are water, sewerage, soil, air, foodstuffs, antiseptics and disinfectants. Each is treated from the point of view of modern research. Many points are dealt with which have escaped the attention which their importance demands in some of the larger text-books.

The book should be a valuable aid to those engaged in laboratory work and in the study of hygiene.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Walter G. Smith, M.D., F.R.C.P.I. General Secretary—J. A. Scott, M.D., F.R.C.S.I.

SECTION OF OBSTETRICS.

President—M. J. Gibson, M.D. Sectional Secretary—Gibbon FitzGibbon, M.D., F.R.C.P.I.

Friday, November 7, 1913.

THE PRESIDENT in the Chair.

Sarcomatous Polypus of Uterus.

Fibroid Uterus removed after Cæsarean Section for Obstructed Labour and Placenta Pravia.

The President exhibited this specimen, and said that the patient, whose age was thirty-six, was unmarried, and had had a child six years previously. She had been admitted to hospital with a history of having had hæmorrhage for several hours previously. She had also had some weak labour pains, which succeeded the onset of the hæmorrhage, and had been examined at least three times by a "handy woman," who had arranged to see her through her confinement, then by two students, and afterwards by the clinical clerk. She had then lost a large amount of blood, and the clinical clerk packed her vagina with iodoform gauze before moving her into hospital. When this was completed she refused to go to hospital, but when the hæmorrhage began to appear through the plug some hours later she consented. When she was admitted she was bleeding steadily, though

not profusely, and was collapsed. Examination showed that the pelvis was obstructed to a very large extent by the fibroid, which could not be pushed out of it, and protruding through the cervix the edge of the placenta could be felt. During the examination a considerable quantity of blood escaped from above the tumour. The feetal heart could not be heard. He decided to remove her uterus immediately after the Cæsarean section, because she was probably septic. She was kept alive during and immediately after the operation with much difficulty, and finally made a good recovery. The specimen raised important questions. Firstly, the value of Cæsarean section for the immediate control of hæmorrhage in placenta prævia: secondly, the treatment of a single large interstitial myoma after Cæsarean section; and thirdly, the value of hysterectomy in cases which are probably septic.

Cancer of the Ovary.

THE PRESIDENT, in exhibiting this specimen, said it had been removed from a patient, aged sixty-three, who had never borne a child. She stated that she had noticed the increasing enlargement of the abdomen, but that she had suffered very little pain. A large tumour could be felt, partly cystic and partly solid. When the abdomen was opened the diagnosis of malignant degeneration of an ovarian cyst was made, and the tumour was removed entire, together with the uterus and the other ovary en masse. The patient made a good recovery.

THE PRESIDENT also showed sections from another case in which the ovaries and uterus had become cancerous in a patient whose breast had previously been removed for cancer. The points raised by the first specimen were the necessity for removing all the cysts of the ovary entire and the need for removal of the other ovary and uterus in cases of cancer.

Dr. Solomons wished to know if a total or a subtotal hysterectomy was done in this case; also if drainage was employed, and if so whether by the abdomen, by the vagina, or by both. As regards the second exhibit, he considered that the abdominal incision should always be large enough to admit the hand, so that the connections of the cyst could be thoroughly investigated.

Dr. Gibbon FitzGibbon, referring to the second exhibit, considered it of interest to hear of involvement of the uterus

from an ovarian tumour. He inquired if the malignancy in the uterus was of the same character as that of the ovary, and if there was any evidence of metastasis in other parts of the body. He recalled a specimen shown by him last session demonstrating that the second ovary should be removed, and thought this should always be done, but that the removal of the uterus was unnecessary, as if there was metastasis in the uterus metastases were far more likely to be in other parts of the body. He did not think a cyst should be tapped where it could be got out whole, an incision of two or three inches additional length was to be preferred to running the risk of fluid getting into the abdominal cavity.

DR. JELLETT said that if the child was dead at the time of the operation he would have preferred to have left it in the uterus, and not to have done a Cæsarean section, as this lessened the risk of spreading any infection that might have been in the uterine cavity. In cancer of the ovary he agreed with the view taken by Dr. FitzGibbon, that the second ovary should always be removed, but did not know whether it was necessary to remove the uterus also, as metastases from the ovary to the uterus are unlikely. On the other hand, removal of the uterus permits a better clearance to be made of the broad ligaments, and so might be wise.

The President, in replying, said that in the case of fibroid uterus he performed a supra-vaginal hysterectomy and drained the abdomen through the open cervix, having stitched the peritoneum anteriorly and posteriorly to its edges. The only reason that the child was removed during the operation was that the pregnant uterus and tumour made a very large mass, and he considered that the operation could be completed more rapidly if the uterus were empty. He consequently made the transverse fundal incision and dropped the uterine contents out of the uterus by anteflexing it over the pubis. He did not touch the cavity of the uterus. The placental site continued to bleed, and having packed the cavity with a large strip of iodoform gauze he proceeded to do the hysterectomy as rapidly as possible. The patient at this time was very collapsed.

In the case of cancer of the uterus and ovaries following removal of the breast, the cancer in the uterus and ovaries was of the same nature. He considered that the uterus and other ovary should be removed in all cases of cancer of the ovary.

Submucous Myoma removed by Myomectomy.

Dr. Jellett said the patient E. M., aged thirty, was admitted on October 18th, 1913. She had been married three months, and had not been pregnant. She complained of a tumour, which she first noticed a year and a half previously. It was then about the size of an orange, and had been growing steadily ever since. She also complained of menorrhagia, some dysmenorrhæa, leucorrhæa, and frequency of micturition. The urine was normal, bowels regular, and heart and chest normal.

When examined, the abdomen was found to be occupied by a tumour reaching up to the umbilicus, hard, and incorporated with the uterus. A submucous myoma, the size of a large orange, was found projecting from the cervix, and probably continuous in the tumour above. Around this the cervix could be felt very much thinned out and dilated.

Full-time Extra-Uterine Pregnancy with Uterus.

Dr. Jellett said the patient K.W. was admitted on June 12th, 1913, aged thirty-eight; married fifteen years. She had four children at term, four abortions, and was pregnant at term when admitted.

Her history was one of amenorrhea since September, 1912. On the 29th of the following April the patient had what she regarded as labour pains, accompanied with vomiting. She stayed in bed for a week; the pains ceased, and since then she "felt no life." She stated that she noticed her stomach getting smaller since then, and complained of some discharge and a bad taste in her mouth.

The urine was almost normal, containing only a slight trace of albumen.

On admission, the top of the fundus was just above the umbilicus. No fœtal heart was heard.

Two days later—that is, June 14th—an attempt was made to induce labour by Krause's method. The cervix seemed somewhat hard and small for a pregnant cervix, but nothing else abnormal. Bimanual examination made, but no information was obtained, mainly because the patient strained hard under the anæsthetic. Two bougies were inserted gently through the external os, and allowed to take their own direction in the usual way. There was no resistance to their passage. Tents were also inserted, and the vagina was packed with iodoform gauze in sterile glycerine.

On the following morning labour had not come on, the tents and bougies were removed, more tents were inserted, and the

vagina was packed as before.

Next morning, June 16th, still no labour pains, so the tents were removed. Fortal head was felt low in posterior fornix. A foot was brought down, the head was pushed up, and the child extracted, during which the cervix seemed to tear behind. Fœtus was macerated. On attempting to remove the placenta manually, the hand entered the cavity, and a much larger cavity was felt on right, extending up towards the liver. No placenta could be felt, but a piece of omentum came down and the intestines could be felt.

Laparotomy was immediately performed, and the following was found:—Free blood, but not much. The placenta was free, and was removed first. What was evidently an abdominal pregnancy was then discovered, the sac apparently originating in the right broad ligament, extending out towards the left, and up on right towards the liver. The posterior lip of the cervix was torn, the tear extending downwards across the posterior fornix. The lower part of the uterus seemed very rotten and friable.

Supravaginal hysterectomy was done, and the sac packed with gauze, the end being pushed out through the tear in the posterior fornix, and the cavity stitched together over the gauze.

Two bimanual examinations failed to reveal the presence of a small uterus, this condition being discovered only on laparotomy.

Dr. Tweepy, referring to the myomectomy that had been performed previously by him on this patient, asked for fuller details as to the operation.

Dr. Rowlette said that an examination of the uterus from the pathological point of view gave no assistance. He suggested that, having regard to the fact that six weeks previously the patient, who lived in the country, had labour pains, the uterus at the time ruptured, and allowed the greater part of the ovum to pass into the abdominal cavity, and that the uterus then involuted.

SIR WILLIAM SMYLY said that the difficulty in his mind was, where did the pregnancy originate? The ease with which the uterus ruptures was quite extraordinary.

Dr. Neill recalled a case very much like this that had been treated in the Coombe Hospital. The foot of the lectus was brought down and allowed to remain so for several hours, and then extracted. It was smaller than that shown in the present exhibit. After getting the fœtus, an effort was made, without effect, to get the placenta. There appeared to be an edge to be felt, but he did not attempt to remove it, as the patient was in a very bad condition, and died the following morning. There was a history of bleeding in a previous pregnancy. Partial post-mortem examination showed the uterus to be as large as the fœtal head, and there was an old tear. A ragged placenta was discovered attached to the sigmoid tlexure. The theory in this case was that the uterus ruptured and the fœtus slipped out.

Dr. M'ALLISTER asked if the placenta is frequently found separated in such a case. He suggested that at the time that the patient had the pains rupture might have occurred by the placenta having eaten its way through the uterus, and in this

way the fœtus might have escaped.

THE PRESIDENT asked what was found when the abdomen was opened. He recalled a case of extra-uterine pregnancy at full term. In this, when the abdomen was opened, the child was removed alive from the bag of membranes. There was severe hæmorrhage from the placental site, which was immediately controlled by compression of the aorta, and afterwards by a firm pack of gauze. The placenta was attached to the ruptured left tube, the posterior layer of the broad ligament, and to the lower bowel and the tissues about it. The gauze was removed gradually, the last piece on the twelfth day. The patient made a good recovery, and the child survived. He had never seen a case of ruptured uterus in which the uterine contents had escaped unruptured into the peritoneal sac. The child in every case lay free among the intestines. The fact that the child in this case had lain in its membranes outside the uterus was in favour of the case being one of extra-uterine pregnancy.

DR. JELLETT, in replying, said that the cervix was dilated in two ways—(1) by the two sets of the sea-tangle tents, and (2) by the tearing of the posterior lip during the delivery of the feetus. The sac of the ovum was adherent to the intestine and omentum—a fact which disproved Dr. Rowlette's suggestion of the extrusion of the ovum through a rupture of the uterus six weeks before the patient came to hospital. It was found impossible to remove the sac at the operation, and it was left, being plugged as tightly as possible with iodoform gauze, but

the membranes gave no subsequent trouble. He considered that if one knew the state of the left tube, the nature of the case would be clear, but, unfortunately, this tube was not in a recognisable condition at the time of the operation, owing to the effect of the extravasated blood on the peritoneum. Dr. Tweedy's previous myomectomy was done on the anterior wall of the uterus, and he, Dr. Jellett, did not consider that it had had any effect in producing the condition met with. He would like to emphasise the fact that neither Dr. Madill nor he himself had the least idea that they were not dealing with an intrauterine pregnancy until the abdomen was opened after the rupture of the gestation sac.

Referring to the second case of myomectomy, his reasons for operating through the vagina were—(1) that he wished to save the uterus, and (2) that he was afraid of doing an abdominal myomectomy on account of the risk of infection owing to the manner in which a large part of the tumour protruded through the cervix into the vagina.

SECTION OF PATHOLOGY.

President—J. B. Coleman, C.M.G., M.D., F.R.C.P.I. Sectional Secretary—William Boxwell, M.D., F.R.C.P.I.

Friday, November 14, 1913.

THE PRESIDENT in the Chair.

Dr. Coleman, in taking the Chair for the first time, said it was his pleasing duty to thank the members for the honour conferred upon him by electing him President of this Section of the Royal Academy of Medicine in Ireland.

Spontaneous Rupture of the Heart.

Dr. A. R. Parsons, in showing this specimen, said that the patient first came to him complaining of flatulence and jagging pains in his right hypochondrium. In connection with the family history it was mentioned that the mother of the patient had died from "burst ancurysm of the heart," and amongst the brothers and sisters of the patient there was a history of cancer of the stomach. The patient was engaged at hard manual labour. Physical examination showed nothing abnormal, nor did the urine contain any abnormal

constituent. He was not seen the second time until a month had elapsed. He was admitted to hospital on the 7th of May, and an examination after a bismuth meal discovered nothing abnormal. On a second examination of the contents of the stomach a positive reaction for blood was obtained, but there was no trace of free hydrochloric acid. He was again seen on the 9th of July, when the flatulence was as bad as ever, and food had to be taken every two hours in order to produce moderate comfort. He was gradually increasing in weight, and would not consent to operation, as he insisted that his heart would not stand it. He was then lost sight of until the 4th of September, when he complained of the pain being still as bad as ever, and when weighed on the 4th of October he was 10 st. 11 lbs. From the time he was first examined his weight had increased approximately 1 lb. per month. A few days after this he became acutely ill at 2 a.m., and had to call in Dr. Winder, whose report was read. Dr. Winder suspected stomach trouble, possibly perforation; but physical examination showed that neither perforation nor peritonitis The patient died shortly afterwards quite had occurred. suddenly.

Dr. Parsons, continuing, said his diagnosis was some form of ulceration, although it could not be overlooked that the patient had gained in weight. The pain he regarded as most likely anginal.

A post-mortem examination was made, and on opening the thorax the first thing unusual that was noticed was blood in the pericardium. On opening the pericardium, fluid blood at once escaped. The stomach was found to be quite small, and there was no evidence of gastrectasis, but along the lesser curvature was found a hard mass suggestive of malignant disease, but no enlargement of the glands was discovered. The heart and lungs were removed, and given to Professor O'Sullivan for examination. It was evident that death was due to rupture of the heart, which was a very rare cause of death. It was mentioned that Quain had collected 100 cases, of which 77 were rupture of the left ventricle, and the majority occurred in patients over sixty years of age.

Two points which impressed him were—1st. That hunger pain is not pathognomonic of duodenal ulcer, and 2nd, that steady and progressive increase in weight is not incompatible with malignant disease of the stomach.

Professor A. C. O'Sullivan said the heart showed a rup-

ture, which apparently ran along the anterior wall of the right ventricle close to the septum, and about three-quarters of an inch long. Both ventricles appeared to be ruptured. It was suggested that blood from the left ventricle must have been pumped into the right ventricle when the septum gave way, and immediately afterwards the wall of the right ventricle ruptured. There was extreme fatty infiltration and diffuse fatty degeneration of the heart muscle. The stomach contained a raised mass running from one curvature to the other, which caused thickening of a large area of the stomach wall. Two sections of it were shown under the microscope. There was no ulceration found anywhere. The cancer was of a rather unusual type—small round-celled—and it was only after several sections were made that the cancerous nature of the growth was established.

Professor O'Sullivan remarked how seldom one found a state of mental excitement or agitation associated with spontaneous rupture of the heart. He had, however, met with one instance of it.

The President said the condition was a very rare one indeed. He recalled a specimen of rupture of the heart shown by him before this Section some seventeen or eighteen years ago, and also a specimen of ruptured aneurysm, which were very similar. He said it was well known that George II. died of rupture of the heart at the age of seventy-six. The condition always appeared to be due to fatty degeneration of the heart muscles. He inquired how long the symptoms of rupture were present before the patient died, and if there were endocardial changes at the site of the rupture.

Professor White said it would be of interest to know the number of cases where the rupture was due to diffuse fatty degeneration. He referred to three cases in the College Museum, in each of which the rupture was due to a localised degeneration of the coronary artery or a branch of it.

Dr. Parsons, replying, said, with reference to the duration of the symptoms, that when the patient was first seen, as far back as March last, he complained of constricting pains round his stomach, but whether this was to be attributed to the malignant disease of the stomach he was not quite certain. If due to the cardiac degeneration he would date the symptoms back about six months prior to death. With regard to the question as to whether this was to be looked upon

as a case of localised degeneration or a diffuse process, he suggested that the specimen showed both.

Favus.

Dr. T. T. O'FARRELL said that he brought forward this specimen to draw attention to the technique of fixing and staining the hairs for spores and mycelial threads in cases of ringworm and favus.

He used a Gram-Weigert method, and placed the various solutions in successive drops on a white tile. This simplified the process, and rendered the recovery of the hairs an easy

matter. The results were excellent.

Glioma of the Fourth Ventricle.

Dr. T. O'Farrell said the specimen was taken from a patient, aged twenty-four, who was occupied as a labourer in a malthouse. Up to five weeks previous to being seen the man was in good health. It was then noticed that when stooping he was inclined to fall forward. On examination, Romberg's sign was present. Pulse and respirations were normal; temperature sub-normal. Within a week after his first examination the patient came into hospital. When walking to hospital he got a fainting fit. His pulse was weak, but he spoke clearly. About twelve hours after admission his speech thickened, and he became stupid. He complained of headache, and his face dropped on the left side. The paralysis extended, and he died about five hours afterwards.

At the post-mortem examination the brain was examined for hæmorrhage, but none could be found in either side until what appeared to be a large clot was discovered in the fourth ventricle. The conclusion was formed that it was a hæmorrhage into a tumour. Sections showed it to be undoubtedly a glioma. The position was of interest.

THE PRESIDENT said that it was obvious that an exact clinical diagnosis would have been extremely difficult as the patient was able to walk about up to a comparatively short time before death.

Note on Three Fatal Cases of Pharyngitis (with specimen).

Dr. Boxwell read a note on three cases of fatal pharyngitis which had occurred during the scarlatina epidemic in September of this year.

The first case was that of a D. M. P. constable admitted on the 7th of September, after two days' illness. He was suffering from inflammation of the pharynx and tonsils, which were greatly swollen and covered with a thick, leathery membrane. The glands in the neck were swollen, and there was albuminuria. He had a profuse blood-stained discharge from the throat and nostrils. The diagnosis made was diphtheria, and anti-diphtheritic serum was given; but careful examinations of cultures from a throat swab revealed streptococci only, and no bacilli. He died suddenly on the 9th of September.

In the second case—that of a girl aged twelve, under the care of Sir John Moore—the diagnosis made was scarlatina anginosa. Clinically, the case was in every respect identical with the previous one. In this case anti-streptococcus serum was given. Result—Death suddenly on the third day.

In this case a post-mortem examination was obtained, and a membrane was found to have grown down the trachea and left bronchus. In the liquid pus from the tubes only cocci were found: but in the membrane diphtheria bacilli were plentiful. Both streptococci and diphtheria bacilli were removed by cultures taken from the spleen examined six hours after death. Punctate hemorrhages in the viscera and general enlargement of the mesenteric glands were noticed.

The third case was a frank case of scarlatina, with a pronounced rash, in a child of four years. Here the severity of the throat infection was only manifest on the sixth day by the development of a parotitis. At first hard, and but slightly tender, it subsequently softened, and pus was evacuated. At the same time a swelling in the right elbow was observed, which was red, tender, and painful. This was quickly followed by a swelling in the dorsum of the left hand. From this some pus was withdrawn through a hypodermic syringe, and found to contain streptococci in pure culture. Within two days the child was dead.

The first two cases showed the intimate relation between scarlatina anginosa and diphtheria. Undoubtedly streptococci were at work in all three cases, but how far diphtheria was responsible for the death in the first case it was impossible to say.

In Case II, the recovery of diphtheria from the blood was unusual and interesting.

The third case was probably a pure streptococcal septicæmia. Unlike the other two, the temperature ran a very high course—over 105°—almost continuously throughout the illness.

A vaccine was made from the pus, but the child was dead before a dose could be administered.

Dr. A. R. Parsons referred to a case in his experience of a little girl, where a large membrane had formed with all the appearance of diphtheria, but when no bacilli could be found by bacteriological examination cocci only were reported. But later on severe and extensive paralysis supervened.

Professor White said it was quite common to find negative reports of "swabs" in cases which were nevertheless true diphtheria. It was also possible to find a negative result one day, and to find the bacilli in almost pure culture the day after. The passage of the bacilli into the general circulation was an occasional but, he thought, a rare event.

Obstructive Dilatation of the Stomach.

Dr. Boxwell showed a case of this condition. Owing to the absence of jaundice, the presence of free hydrochloric acid, and swarms of sarcinæ, together with the absence of lactic acid and Boas-Oppler bacilli, it was thought at first that the dilatation was merely atonic. After a few days' rest in bed, combined with lavage, strychnine, saline injections, and a selected diet, the tone of the stomach recovered, and peristalsis became visible through the abdominal wall. On gentle massage, a tumour appeared in the right hypochondrium, which subsided with a gurgle, as though discharging through a narrow opening. It was now clear that there was organic obstruction of some sort, but the patient was too weak for any attempt at operation. She gradually became comatose, and died fourteen days after admission.

Atrophic Pancreas.

Dr. Boxwell also showed this specimen. The atrophy was due to obstruction of the duct by numerous calculi, of calcium phosphate and carbonate. The duct was widely dilated, and the gland fibrous.

At the autopsy a small scirrhus cancer of the head of the pancreas was found, causing partial obstruction of the duodenum.

SANITARY AND METEOROLOGICAL NOTES.

VITAL STATISTICS.

For four weeks ending Saturday. November 29, 1913.

IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended November 29, 1913, in the Dublin Registration Area and the twenty-six principal provincial Urban Districts of Ireland was 16.6 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,199,180. The deaths registered in each of the four weeks of the period ending on Saturday, November 29, and during the whole of that period in certain of the districts, alphabetically arranged, correspond to the following annual rates per 1,000:—

		Average Rate			
County Boroughs, &c.	Nov.	Nov. 15	Nov.	Nov. 29	for 4 weeks
27 Town Districts	17.6	18.8	16.4	16.6	17.3
Dublin Reg. Area	19.4	20.1	18.1	19.7	19.3
Dublin City	19.5	20.8	19.8	21.0	20.3
Belfast	17.5	18.3	16.6	14.7	16.8
Cork	18.4	21.1	10.2	18.4	17.0
Londonderry	21.6	22.9	12.7	14.0	17.8
Limerick	21.7	24.4	16.2	17.6	20.0
Waterford	20.9	17.1	20.9	11.4	17.6

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 27 districts during the week ended Saturday, November 29, 1913, were equal to an annual rate of 1.4 per 1,000. Among the 112 deaths from all causes in

Belfast were 4 from scarlet fever, 3 from measies, 2 from enteric fever, and one from diphtheria. Included in the 5 deaths from all causes for Galway was one irom each of measles and whooping-cough. Two of the 27 deaths from all causes for Cork were from diarrhea and enteritis of children under 2 years. Among the 3 deaths from all causes for Sligo was one from diphtheria, and of the 3 deaths registered in Coleraine one was from enteric fever.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin, as extended by the Dublin Corporation Act, 1900. together with the Urban Districts of Rathmines. Pembroke. Blackrock, and Kingstown. The population of this area is 403,000; that of the City being 308,187. Rathmines 38,769, Pembroke 29,942, Blackrock 9,161, and Kingstown 16,941.

In the Dublin Registration Area the births registered during the week ended November 29 amounted to 209—114 boys and 95 girls, and the deaths to 164—77 males and 87 females.

DEATHS.

The deaths registered, omitting the deaths (numbering 12) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 19.7 per 1,000 of the population. During the forty-eight weeks ending with Saturday, November 29, the death-rate averaged 20.3, and was 1.4 below the mean rate for the corresponding portions of the ten years, 1903–1912.

The total deaths registered, numbering 164, represent an annual rate of 21.2 per 1,000. The annual rate for the past forty-eight weeks was 21.7 per 1,000, and the average annual rate for the corresponding period of the past ten years was 22.8 per 1,000 of the mean population for all deaths registered.

The deaths included one death from each of dysentery, typhus, measles, and scarlet fever. 2 from dightheria. 3 from influenza, and 7 deaths from diarrhœa and enteritis of children under 2 years. In each of the 3 preceding weeks deaths from typhus had been 0, 0, and 0; deaths from scarlet fever had been one, 0, and one; deaths from diphtheria had been one, 5, and one; deaths from influenza had been 2, 0, and 0;

deaths from measles had been 2, one, and 0; and deaths from diarrhea and enteritis of children under 2 years had been 7, 8, and 9.

Of 23 deaths from tuberculosis (all forms) 17 were attributed to pulmonary tuberculosis, 2 to tubercular meningitis, 2 to abdominal tuberculosis, and 2 to other forms of the disease. This number is exclusive of 12 deaths of persons (including one at 80 years) admitted to hospital from localities outside the Area. In each of the 3 preceding weeks, deaths from all forms of tuberculosis had been 24, 27, and 20.

There were 11 deaths from cancer, or malignant disease.

There were 4 deaths of infants from congenital debility and 3 deaths from premature birth.

The 14 deaths from pneumonia included 10 from bronchopneumonia and 4 from pneumonia (type not distinguished).

Fifteen deaths were caused by organic diseases of the heart. There were 18 deaths from bronchitis.

Of 6 deaths from accident or negligence, one was by burning and 2 were by drowning.

In three instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the death of one infant under one year of age. Thirty-eight of the persons whose deaths were registered during the week were under 5 years of age (27 being infants under one year, of whom 10 were under one month old), and 31 were aged 65 years and upwards, including 18 persons aged 70 and upwards; among the latter were 9 aged 75 years and upwards.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," and the "Tuberculosis Prevention (Ireland) Act, 1908." as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; by Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; by Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; by Mr. Mooney, Executive Sanitary Officer for Blackrock Urban District; by the Executive

Sanitary Officer for Kingstown Urban District; and by Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

Table showing the Number of Cases of Infectious Diseases notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended November 29, 1913, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Measles Pubells or Eni-	Robella, or Epidemic Rose Rash Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Pyrexia (origin uncertain) a	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Whooping-cough	Cerebro-spinal Fever	Tuberculous Phthisis (Phthisis).	Acute Polio- myelitis	Total
City of Dublin	Nov. 8 Nov. 15 Nov. 22 Nov. 29		• 13 • 16 • 15 • 21	- - 1	-	10 16 16 6	-	1 1 - 2	9 2 5 6	8 6 6	-	*	-	14 21 19 30		55 62 61 72
Rathmines and Rathgar Urban District	Nov. 8 Nov. 15 Nov. 22 Nov. 29		* 1 * 3 * 1 * 1		- - -	4 7 5 6		3 -	2 - 8 3			*	•	*	•	7 13 14 10
Pembroke Urban District	Nov. 8 Nov. 15 Nov. 22 Nov. 29	-	- 1 - 1 - 1 - 3	-	-	1 - 4 3	- - -	-	7 1		-	-	*		*	2 3 12 7
Blackrock Urban District	Nov. 8 Nov. 15 Nov. 22 Nov. 29	•	-		-	1		-	1 -	-					* * *	1 1
Kingstown Urban District	Nov. 8 Nov. 15 Nov. 22 Nov. 29	* * *	· 1	-	-	3 -		-		1 - -	-	*	* *		:	2 - 3 1
City of Belfast	Nov. 8 Nov. 15 Nov. 22 Nov. 29	•	* 66 • 86 • 74 • 67	-	-	5 14 14 9	1 2 - 1	-	8 4	5 6 6	-		1 1 1	4 9 6 2	2 4 2	89 122 112 91

a Continued Fever

Cases of Infectious Diseases under Treatment in Dublin Hospitals.

During the week ended November 29, 1913, 9 cases of enteric fever were admitted to hospital, 4 were discharged, and 62 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the three preceding weeks having been 56, 50, and 57.

Three cases of measles were admitted to hospital, there was one death, and 8 cases remained under treatment at the

close of the week. At the end of the 3 preceding weeks such cases were 4, 4, and 6 respectively.

One case of typhus died in hospital during the week, and no case remained under treatment at its close.

Twenty-six cases of scarlet fever were admitted to hospital, 13 were discharged, there was one death, and 113 cases remained under treatment at the close of the week. This number is exclusive of 15 patients under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital. At the close of the 3 preceding weeks the cases in hospital had been 103, 89, and 101, respectively.

Eighteen cases of diphtheria were admitted to hospital, 7 were discharged, and there were 2 deaths. The cases in hospital, which at the close of the 3 preceding weeks had numbered 48, 57, and 70 respectively, were 79 at the close of the week under review.

In addition to the above-named diseases, 10 cases of pneumonia were admitted to hospital, 5 were discharged, there were 3 deaths, and 33 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday. November 29, in 96 large English towns (including London, in which the rate was 14.1) was equal to an average annual death-rate of 14.1 per 1,000 persons living. The average rate for 16 principal towns of Scotland was 17.0 per 1,000, the rate for Glasgow being 18.9, and that for Edinburgh, 16.3.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended November 29. From this Report it appears that of a total of 78 cases notified, 44 were of scarlet fever, 19 of phthisis, 10 of diphtheria, 3 of crysipelas, one of puerperal fever, and one of enteric fever. Among the 612 cases of infectious diseases in hospital at the close of the week were 374 cases of scarlet fever, 125 of phthisis, 58 of diphtheria, 36 of measles, one of whooping-cough, one of puerperal fever, one of chicken-pox, 5 of enteric fever, and 6 of crysipelas.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20'								
N., Long. 6° 15′ W., for the Me	onth o	f Nov	ember, 1913.					
Mean Height of Barometer, -	-	-	29.792 inches.					
Maximal Height of Barometer (28th,	at 9 a.	m.),	30.453 ,,					
Minimal Height of Barometer (12th, a	at 7 a.	m.),	29.023 ,,					
Mean Dry-bulb Temperature,	-	-	46.8°.					
Mean Wet-bulb Temperature,	-	-	44.8°.					
Mean Dew-point Temperature,	-	-	42.5°.					
Mean Elastic Force (Tension of Aqueo	ous Va	pour)	, .277 inch.					
Mean Humidity,	-	-	85.4 per cent.					
Highest Temperature in Shade (on 1	7th),	-	57.1°.					
Lowest Temperature in Shade (on 2)	2nd),	-	35.3°.					
Lowest Temperature on Grass (Radiation) (22nd), 32.2°.								
Mean Amount of Cloud, -	-	-	57.6 per cent.					
Rainfall (on 21 days),	-	-	2.237 inches.					
Greatest Daily Rainfall (on 7th),	-	-	.514 inch.					
General Directions of Wind,	-	-	W., S.W.					

Remarks.

A singularly mild and open month of brisk S.W. and W. winds, and an almost entire absence of fog. Rain fell frequently, and in excessive amounts in the south-west and west of Ireland, as well as in many parts of Great Britain. The general distribution of atmospheric pressure favoured this type of weather. The barometer was for the most part extremely low in Iceland and on the Atlantic between that island and the British Isles, whereas an anticyclonic ridge for the most part stretched from the Azores to Spain and often still further eastward to Central Europe. On the morning of the 17th the barometer was down to 28.21 inches at Vestmanna, on the south coast of Iceland, whereas it stood at 30.53 inches at Corunna, in the north-west of Spain. Again, at 7 a.m. of the 25th pressure ranged from 28.32 inches at Vestmanna to 30.54 inches at Corunna. These readings indicated the existence of a very steep gradient for south-westerly winds on the Atlantic shores of Europe. During the three weeks ended on Saturday, the 22nd, the weather was in a very unstable condition, being exceedingly changeable and unsettled, with

frequent rain and occasional fine intervals and spells of bright sunshine in the daytime. On the 22nd an area of high pressure spread over the United Kingdom from the southward, but next day a V-shaped depression off the west coast of Ireland caused a southerly gale in this country. On and after the 26th, however, the weather became relatively fine owing to the extension of an anticyclone over the southern half of the British Isles from the Atlantic and the Bay of Biscay. The singular mildness of the month was not interrupted by this change, and November closed with the thermometer rising to 55°, 56° and even 57° at several English stations.

In Dublin the arithmetical mean temperature (47.7°) was 2.4° above the average (45.3°) ; the mean dry-bulb readings at 9 a.m. and 9 p.m. were 46.8° . In the forty-nine years ending with 1913, November was coldest in 1878 (M. T. = 38.2°), and in 1910 (M. T. = 40.8°); warmest in 1899 (M. T. = 50.7°), and in 1881 (M. T. = 50.3°).

The mean height of the barometer was 29.792 inches, or 0.068 inch below the corrected average value for November—namely, 29.860 inches. The mercury rose to 30.453 inches at 9 a.m. of the 28th, and fell to 29.023 inches at 7 a.m. of the 12th. The observed range of atmospheric pressure was, therefore, 1.430 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 46.8°, or 4.0° below the value for October, 1913. The arithmetical mean of the maximal and minimal readings was 47.7°, compared with a thirty-five years' (1871–1905) average of 45.3°. The mean maximum in the screen was 52.6°, the mean minimum was 42.8°, and the mean minimum on the grass was 40.6°. On the 17th the thermometer in the screen rose to 57.1°—wind, W.; on the 22nd the temperature fell to 35.3°—wind. W. The minimum on the grass was 32.2°, also on the 22nd.

The rainfall was 2.237 inches on 21 days—the rainfall was below, but the rain-days were above, the average. The average rainfall for November in the thirty-five years, 1871-1905, inclusive, was 2.720 inches, and the average number of rain-days was 17. In 1888, 6.459 inches fell on 26 days. On the other hand, the rainfall in 1896 was only .664 inch on 9 days. In 1912 the rainfall was 1.438 inches on 14 days.

High winds were noted on 13 days, and attained the force of

a gale on 3 days—the 2nd, 15th and 18th. A solar halo appeared on the 2nd, and a lunar corona on the 8th, 13th and 14th.

The rainfall in Dublin during the eleven months ending Nov. 30th amounted to 26.979 inches on 178 days, compared with 25.761 inches on 185 days in 1912, 19.404 inches on 163 days in 1911, 15.378 inches on 141 days during the same period in 1887, and a thirty-five years average of 25.750 inches on 181 days.

Mr. C. D. Clark reports that at the Normal Climatological Station in Trinity College, Dublin, the mean height of the barometer was 29,785 inches, the range of atmospheric pressure being from 30.41 inches at 9 a.m. of the 28th to 29.05 inches at 9 a.m. of the 12th. The mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 48.0°. The arithmetical mean of the daily maximal and minimal temperatures was 48.7°. The screened thermometers rose to 59.0° on the 10th and fell to 36.8° on the 22nd. The grass minimum was 26° on the 4th. Rain fell on 18 days to the amount of 2.108 inches, .540 inch being measured on the 7th. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 63.7 hours, giving a daily average of 2.1 hours. The mean temperature of the soil at 9 a.m. was 47.6° at a depth of one foot below the surface of the ground, 50.3° at a depth of 4 feet.

The rainfall at Ardgillan, Balbriggan, Co. Dublin, as recorded by Captain Edward Taylor, D.L., was 2.69 inches, or 0.08 inch below the average for November. The rain-days were 21, or 5 over the average. On the 7th .74 inch was measured. From January 1st the rainfall equalled 29.25 inches on 172 days, being 3.07 inches and 2 days in excess. The thermometer in the screen rose to 57.0° on the 10th, and fell to 33.2° on the 22nd. The November rainfall at Ardgillan in recent years has ranged from .92 inch in 1896 to 5.05 inches in 1901.

At Stirling, Cloneo, Co. Meath, Mr. J. Pilkington registered a rainfall of 2.66 inches on 21 days, the maximum in any one day being .46 inch on the 7th. From January 1 to November

30, 1913, rain fell on 179 days to the amount of 29.60 inches. This station stands 231 feet above sea-level.

Mr. T. Bateman reports that the rainfall at The Green, Malahide, Co. Dublin, was 2.395 inches on 19 days—the greatest fall in 24 hours being .835 inch on the 7th.

At the Ordnance Survey Office, Phœnix Park, Dublin, rain fell on 22 days to the amount of 2.240 inches, the largest measurement in 24 hours being .500 inch on the 7th. The total amount of bright sunshine was 80.0 hours, the most in one day being 7.1 hours on the 3rd.

Dr. Christopher Joynt, F.R.C.P.I., registered 2.083 inches on 19 days at Leeson Park, Dublin. The maximum in 24 hours was .470 inch on the 7th, and .463 inch was measured on the 9th. Up to November 30th, the rainfall of 1913 amounted to 25.748 inches on 165 days.

At Cheeverstown Convalescent Home, Clondalkin. Co. Dublin, Miss C. Violet Kirkpatrick reports that the rainfall was 3.06 inches on 24 days The maximal fall in 24 hours was 79 inch on the 9th.

Dr. A. J. Blake, Resident Medical Superintendent of the Sanatorium of the Dublin Joint Hospital Board, Crooksling, near Brittas, Co. Dublin, returns the rainfall of November at that station as 3.05 inches on 22 days, including a fall of .62 inch on the 7th—the maximum in 24 hours.

At Crooksling Sanatorium, the rainfall in October amounted to 6.98 inches on 16 days. Large falls occurred on the 5th and 7th, but the figures are not forthcoming.

Dr. Arthur S. Goff reports that at Belfort House. Dundrum, Co. Dublin, rain fell on 21 days to the amount of 3.02 inches, the greatest measurement in 24 hours being .75 inch on the 9th. The mean temperature in the shade was 48.2°, the range being from 58° on the 10th and 16th to 38° on the 4th. 13th, 19th, and 22nd.

Mr. George B. Edmondson reports a rainfall of 3.06 inches on 21 days at Manor Mill Lodge, Dundrum, Co. Dublin. The greatest fall in 24 hours was .75 inch on the 9th. The mean temperature of the month was 46.9°. On the 18th the thermometer rose to 59°; on the 4th, 22nd and 23rd it fell to 37°.

In the twenty-four years' (1885-1908) the average rainfall for November was 2.880 inches on 16 days at Cloneovin, Killiney, Co. Dublin. In 1913 Mr. W. J. M'Cabe, the observer

for the Right Hon. Laurence Waldron, D.S., at Marino, Killiney, recorded 2.84 inches on 16 days; on the 11th .63 inch was measured, and on the 7th .62 inch.

Dr. John H. M. Armstrong. M.B., reports that at Coolagad, Greystones, Co. Wicklow, the rainfall was 4.23 inches on 22 days. Of the total quantity, .76 inch fell on the 7th.

At Auburn, Greystones, Co. Wicklow, Mrs. Sydney O'Sullivan measured 3.45 inches of rain on 20 days, the heaviest fall in 24 hours being .66 inch on the 7th.

Dr. Charles D. Hanan, M.D., reports a rainfall of 4.18 inches on 20 days at the Royal National Hospital for Consumption for Ireland. Newcastle, Co. Wicklow. The greatest fall in 24 hours was .76 inch on the 9th. The mean temperature for the month was 47.3°, the maximum being 60° on the 16th and the minimum 35° on the 24th. The mean maximum was 52.6°; the mean minimum was 41.9°.

At Dunmanway Rectory, Co. Cork, the Rev. Arthur Wilson, M.A., registered a rainfall of 7.67 inches on 26 days, the heaviest falls in 24 hours being .80 inch on the 23rd and .78 inch on the 20th. The rainfall was 2.81 inches in excess of the average for November. The rainfall for the eleven completed months of 1913 amounted to 63.54 inches, compared with an eight years' average of 49.63 inches—that is, 13.91 inches in excess. The month was very wet, but mild as a rule. There was very little frost.

MEDICATED WINES.

An attack on medicated wines, on the ground that their sale at chemists' shops is an obstacle to the cause of temperance, was made by Dr. Robert Simpson, of Plymouth, in a speech at a conference of the Western Temperance League at Ilfracombe recently. Dr. Simpson said that the insidious danger of these substances was increasing manifoldly. The consumers lost sight of the fact that in order to obtain a very small quantity of nutriment or medicament they had at the same time to swallow a considerable amount of alcoholic stimulant. Numbers of cases of inebriety owed their origin to indulgence in some form or other of medicated or tonic wine. A resolution was carried calling for legislation to make it obligatory upon manufacturers of these products to reveal their alcoholic and drug contents upon each label.

PERISCOPE.

INTERNATIONAL SYSTEM OF STETHOSCOPIC ABBREVIATIONS.

At the 10th International Conference of the International Antituberculosis Association in Rome, 1912, Professor Saugman, of Vejlefjord, Jutland, Denmark, proposed the adoption of an International system of abbreviation of terms used in physical examination of the chest, as follows:—

d.	Dexter	Rechts	Droit	Right
S.	Sinister	Links	Gauche	Left
a.	anterior	vorne	antérieur	anterior
p.	posterior	hinten	postérieur	posterior
sup.	superior	oben	supérieur	superior
inf.	inferior	unten	inférieur	inferior
C.	costa	Rippe	côte	rib
C ₂ etc.	costa II etc.			
interc.	spatium inter-	Zwischen-	espace inter-	intercostal
	costale	rippenraum	costal	space
Cl.	clavicula	Schlüsselbein	clavicule	claviele
Pap.	papillula	Papille	mamelon	nipple
	mammæ			
Sp.	spina scapulæ	Schultergräte	épine de l'omo- plate	spine of scapula
Ang.	angulus sca-	Schulterblatt-	angle de l'omo-	angle of scapula
	pulæ	winkel	plate	
½ Sc.	medio scapulæ	Mitte der Reg. infraspinata	au milieu de la région sous-	½ of scapula
			épineuse	
——————————————————————————————————————	usque ad	bis zu	jusqu'à	up to
Th.	Thorax			•
applan.	Thorax applanatus	abgeflacht	aplati	flattened
applan. dilat.	Thorax applanatus dilatatus	abgeflacht ausgedehnt	aplati dilaté	flattened dilated
applan. dilat. retard.	Thorax applanatus dilatatus retardatus	abgeflacht ausgedehnt nachschleppend	aplati dilaté retardant	flattened dilated slowed
applan. dilat.	Thorax applanatus dilatatus retardatus margo pul-	abgeflacht ausgedehnt	aplati dilaté retardant limite du pou-	flattened dilated slowed border of the
applan. dilat. retard. Margo	Thorax applanatus dilatatus retardatus margo pul- monis	abgeflacht ausgedehnt nachschleppend Lungenrand	aplati dilaté retardant limite du pou- mon	flattened dilated slowed border of the lung
applan. dilat. retard. Margo mobil.	Thorax applanatus dilatatus retardatus margo pul- monis mobilis	abgeflacht ausgedehnt nachschleppend Lungenrand beweglich	aplati dilaté retardant limite du pou- mon mobile	flattened dilated slowed border of the lung movable
applan. dilat. retard. Margo mobil. immobil.	Thorax applanatus dilatatus retardatus margo pul- monis mobilis immobilis	abgeflacht ausgedehnt nachschleppend Lungenrand beweglich unbeweglich	aplati dilaté retardant limite du pou- mon mobile immobile	flattened dilated slowed border of the lung movable immovable
applan. dilat. retard. Margo mobil. immobil. M.*)	Thorax applanatus dilatatus retardatus margo pul- monis mobilis immobilis mutitio, mutus	abgeflacht ausgedehnt nachschleppend Lungenrand beweglich unbeweglich Dämpfung	aplati dilaté retardant limite du pou- mon mobile immobile matité	flattened dilated slowed border of the lung movable immovable dulness
applan. dilat. retard. Margo mobil. immobil.	Thorax applanatus dilatatus retardatus margo pul- monis mobilis immobilis	abgeflacht ausgedehnt nachschleppend Lungenrand beweglich unbeweglich	aplati dilaté retardant limite du pou- mon mobile immobile	flattened dilated slowed border of the lung movable immovable
applan. dilat. retard. Margo mobil. immobil. M.*)	Thorax applanatus dilatatus retardatus margo pul- monis mobilis immobilis mutitio, mutus	abgeflacht ausgedehnt nachschleppend Lungenrand beweglich unbeweglich Dämpfung	aplati dilaté retardant limite du pou- mon mobile immobile matité	flattened dilated slowed border of the lung movable immovable dulness tympanitic
applan. dilat. retard. Margo mobil. immobil. M.*) Tymp. Met.	Thorax applanatus dilatatus retardatus margo pul- monis mobilis immobilis mutitio, mutus tympanismus metallia	abgeflacht ausgedehnt nachschleppend Lungenrand beweglich unbeweglich Dämpfung Tympanie	aplati dilaté retardant limite du pou- mon mobile immobile matité tympanisme résonnance mé-	flattened dilated slowed border of the lung movable immovable dulness tympanitie sound
applan. dilat. retard. Margo mobil. immobil. M.*) Tymp. Met. Resp.	Thorax applanatus dilatatus retardatus margo pul- monis mobilis immobilis mutitio, mutus tympanismus	abgeflacht ausgedehnt nachschleppend Lungenrand beweglich unbeweglich Dämpfung Tympanie Metallklang	aplati dilaté retardant limite du pou- mon mobile immobile matité tympanisme résonnance mé- tallique	flattened dilated slowed border of the lung movable immovable dulness tympanitic sound metallic sound
applan. dilat. retard. Margo mobil. immobil. M.*) Tymp. Met.	Thorax applanatus dilatatus retardatus margo pul- monis mobilis immobilis mutitio, mutus tympanismus metallia respiratio	abgeflacht ausgedehnt nachschleppend Lungenrand beweglich unbeweglich Dämpfung Tympanie Metallklang Atmung	aplati dilaté retardant limite du pou- mon mobile immobile matité tympanisme résonnance mé- tallique respiration	flattened dilated slowed border of the lung movable immovable dulness tympanitie sound metallic sound respiration
applan. dilat. retard. Margo mobil. immobil. M.*) Tymp. Met. Resp. Insp.	Thorax applanatus dilatatus retardatus margo pul- monis mobilis immobilis mutitio, mutus tympanismus metallia respiratio inspiratio	abgeflacht ausgedehnt nachschleppend Lungenrand beweglich unbeweglich Dämpfung Tympanie Metallklang Atmung Einatmung	aplati dilaté retardant limite du pou- mon mobile immobile matité tympanisme résonnance mé- tallique respiration inspiration	flattened dilated slowed border of the lung movable immovable dulness tympanitic sound metallic sound respiration inspiration
applan. dilat. retard. Margo mobil. immobil. M.*) Tymp. Met. Resp. Insp. Exsp.	Thorax applanatus dilatatus retardatus margo pul- monis mobilis immobilis mutitio, mutus tympanismus metallia respiratio inspiratio exspiratio	abgeflacht ausgedehnt nachschleppend Lungenrand beweglich unbeweglich Dämpfung Tympanie Metallklang Atmung Einatmung Ausatmung	aplati dilaté retardant limite du pou- mon mobile immobile matité tympanisme résonnance mé- tallique respiration inspiration exspiration	flattened dilated slowed border of the lung movable immovable dulness tympanitic sound metallic sound respiration inspiration exspiration

amph.	amphoricus	amphorisch	souffle cavitaire	amphoric
sacc.	saccatus	saccadiert	saccadé	cog-wheel
prolong.	prolongatus	verlängert	prolongé	prolonged
fort.	fortis	verschärft	exagéré	strong
dim.	diminutus	abgeschwächt	affaibli, diminué	diminished
RL**)		grossblasiges	gros râles	coarse râles
		Rasseln		
Rl**)		mittelblasiges	râles moyens	moderate râles
		Rasseln		medium râles
rl**)		kleinblasiges	râles fins	fine râles
		Rasseln		
()		nur nach Huster	après la toux	only after
		zu hören	seulement	coughing
(Rl)		spärliches mit-	râles peu nom-	few medium
		telblasiges	breux moyens	, râles only af-
		Rasseln, nur	perceptibles	ter coughing
		nach Husten	seulement	
		zu hören etc.	après la tou	X
			etc.	

All quantitative variations of a phenomenon are indicated by the figures 1 to 3 added to the principal sign, the number 1 to represent the minimum degree and the number 3 the maximum of the said phenomenon. For example: M_1 , M_2 , M_3 signify: slight dulness, marked dulness and complete dulness, Rl_1 , Rl_2 , Rl_3 : few râles, several râles and many râles: \dim_1 , \dim_2 , \dim_3 , slightly diminished and much diminished, etc., etc.

**) Please note the meaning of the capital and small letters!							
sicc.	siccus	trocken	sec	dry (râles)			
cons.	consonans	klingend	consonnant	tinkling			
crep.	crepitans	crepitierend	crépitant	crepitant			
subcrep.	subcrepitans	subcrepitierend	souscrépitant	subcrepitant			
craq.		knackend	craquements	crackling			
rh.	rhonchi	Rhonehi	râles	rhonchi			
frict.	frictio	Reiben	frottements	friction			
Frem.	fremitus vocali	is Stimmfremitus	vibrations	vocal fremitus			
			vocales				
Brph.	bronchophonia	l .		bronchophony			

This system was definitely adopted by the XI. International Conference on Tuberculosis in Berlin on the 25th of October, 1913.

AMORPHOUS PHOSPHORUS IN SENILE ARTERIOSCLEROSIS.

I. L. NASCHER, M.D., has used the red amorphous phosphorus in senile arteriosclerosis for several years. Given originally as a substitute for ordinary phosphorus in senile debility, it was found that it was eliminated as amorphous phosphate of calcium, and that the lime elimination was thereby increased. Weil's experiments showed that the lime elimination in arteriosclerosis was diminished. Phosphorus has the property

of combining with lime and increasing the lime assimilation. In the small doses which can be given when the ordinary phosphorus is employed the phosphorus will combine with the lime of the food and increase the amount of lime salts in the body. When given as amorphous phosphorus the dose is two grains or more several times a day, and with a lime-free diet the lime required for the combination necessary to secure the elimination of the phosphorus excess is drawn from the abnormal lime deposits. This appears to be the rationale of the treatment, and explains the good results obtained from its use.—Diseases of Old Age, P. Blakiston's Son & Co., Philadelphia.

THE NATIONAL UNIVERSITY OF IRELAND.

THE returns of the Matriculation Examinations, Summer and Autumn, 1913, show that 736 candidates entered for the Examinations; of these 457 passed and became Matriculated Students of the University. In addition there have been matriculated on the results of the Intermediate Senior Grade and other Public Examinations, 95 students, making a total of 552 students matriculated in the year 1913, to date, December 16.

LITERARY NOTES.

"INDUSTRIAL Lead Poisoning" will be the title of a new work by Sir Thomas Oliver, to be published early in 1914 by H. K. Lewis. The book will be an elaboration of a lecture recently delivered at the Royal Institute of Public Health. The subject of lead poisoning will be dealt with mainly from the industrial point of view, and will include the symptomatology, pathology, and treatment of the disease. It is intended to be a book for the Medical Practitioner, Certifying Factory Surgeon, and Employer. The same publisher also announces a reprint of the collection of essays and addresses by Sir William Osler, issued under the title of "Aequanimitas," which has already gone through three editions, and has been out of print for some little time. This volume contains the addresses, which gave rise to so much discussion, on the age limit for original work. Other new editions are the second of Dr. Lewis Jones' book on "Ionic Medication"; the fifth of Dr. Dudley Buxton's popular handbook on "Anæsthetics," which has been almost entirely rewritten and will appear in the demy octavo form

in the *Practical Series*—and a fifth edition of Mr. Albert Taylor's "Sanitary Inspector's Handbook," also considerably enlarged. Two new books are Mr. Mildred Burgess's "Health," based on the County Council's Syllabus of Lectures; and a small work by Dr. T. B. Scott—"The Road to a Healthy Old Age."

LITERARY INTELLIGENCE.

Messes. J. & A. Churchill are about to publish the following new books and new editions: - "A Manual for Masons," by J. A. Van Der Kloes, Professor in the Science of Materials of Construction, Technical High School, Delft: Revised by Alfred B. Searle. "Modern Steel Analysis," by J. A. Pickard, B.Sc., Honours London A.R.C.Sc., A.I.C., F.C.S., Carnegie Research Scholar of the Iron and Steel Institute. "The Story of Plant Life in the British Isles," by A. R. Horwood, Member of the British Botanical Society, Ecological, Conchological Societies, &c. Illustrated with 73 photographs, 6s. 6d. net. "Materia Medica, Pharmacy. Pharmacology and Therapeutics," by W. Hale White, M.D., F.R.C.P. Thirteenth Edition. 6s. 6d. net. "Elementary Practical Chemistry." Part I. By Frank Clowes, D.Sc. Lond., and J. Bernard Coleman, A.R.C.Sc., Sixth Edition, with 76 illustrations. 3s. 6d. net. "The Medical Directory. 1914." 15s. net. "Who's Who in Science, 1914," with over 9,000 biographies. 10s. net.

SCOTTISH CONJOINT BOARD.

At a meeting of the Committee of Management of the Triple Qualification of the Royal College of Physicians of Edinburgh, The Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons of Glasgow, held on December 12th, 1913, the following appointments were made:—Mr. D. L. Eadie, 50 George Square, Edinburgh, Inspector and Treasurer; and Mr. Walter Hurst, 242 St. Vincent Street, Glasgow, Registrar for Glasgow.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

AT a meeting of the College, held on Wednesday, December 17th, the following gentlemen, having passed the requisite examinations on 9th October, 1913, were admitted Fellows:—John Bright Banister, M.D., Univ. Camb., M.R.C.P. Lond., London, W.; Edmund Ewart Brown, M.B., Ch.B. Univ. N.

Zeal., Edinburgh; Norman Huthnance Bye, M.R.C.S., Eng., L.R.C.P.Lond., Essex; Hugh Palliser Costobadie, M.R.C.S. Eng., L.R.C.P. Lond., Somerset: Francis James Coutts, M.D. Univ. Lond., M.R.C.S. Eng., L.R.C.P. Lond., Leytonstone, London, N.E.; Arthur Dickson, M.D. Univ. Edin., &c., Healey, Rochdale; Charles Covne Elliott, M.D. Western Univ., London, Ontario, Edinburgh; John Charles Boileau Grant, M.B., Ch.B. Univ. Edin., Nottingham; Norman Walter Mackwort, M.B., Ch.B. Univ. Aberd., Capt. Indian Medical Service; Carl Theodorus Moller, L.R.C.S.E. (Triple Qual.). M.B., Ch.B. Univ. Edin., Germiston, Transvaal; Spencer Mort, M.B., Ch.B. Univ. Glas., Upper Edmonton, London, N.; Frederick Charles Pridham, M.R.C.S.Eng., L.R.C.P. Lond., Darlington: Adolphe Henry Seelenmever, M.B., Ch.B. Univ. Melbourne, Croydon, Surrey; Reginald Eccles Smith, M.B., Ch.B. Univ. Leeds, Driffield, East Yorkshire; John Tennant, M.B., C.M. Univ. Edin., Edinburgh; and Hermann Watson Webb, M.B., Ch.B. Univ. Edin., Edinburgh.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

" Vaporole" Tincture of Iodine.

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PART I. ORIGINAL COMMUNICATIONS.

ART. IV.—Chronic Intestinal Stasis.^a By Seton Pringle, F.R.C.S.I.; President of the Dublin University Biological Association, and Surgeon to Mercer's and Cork Street Hospitals, Dublin. (Illustrated.)

ALL of us have had the experience of treating and some of us of operating on cases with more or less indefinite abdominal symptoms—symptoms which may have suggested gastric or duodenal ulcer, gall stones, chronic appendicitis, ovaritis, &c. But at the operation none of these lesions have been found, or, if found, their appropriate treatment has failed to permanently relieve our patients. Looking back over such cases we recognise that in many the abdominal trouble has been accompanied by general debility, chronic constipation, a sallowness or duskiness of the skin, headaches, bad appetite. In fact the patients were toxemic, and in treating the lesion we have merely dealt with the result and left the cause untouched. The root of the trouble in these cases is chronic intestinal stasis, or, in other words, delay in the

^a An Address delivered before the Dublin University Biological Association on November 22, 1913.

passage of the contents through the alimentary tract, and consequent excessive absorption of toxic products. We are indebted chiefly to Sir Arbuthnot Lane for enlightenment on this subject, and no communication such as this would be complete without heartily acknowledging the excellent pioneer work he has accomplished in the face of much prejudice and keen opposition. Many other workers have thrown light on one or other aspect of the problem, and I wish to mention in this connexion the names of Coffey, Wilms, Flint, Mayo, Jackson, Connell, Roysing, Goldthwait, Bainbridge, Eastman, and last, but not least, Mr. Gray. Personally, I have been feeling my way in the treatment of these most interesting eases for the last five years. As my own ideas have become crystallised, I have absorbed and adopted many of the ideas put forward in the first place by some of the above writers, so here and now I wish to express my obligation.

There are, to my mind, two distinct factors in the production of stasis: (1) Ptosis of some part of the gastro-intestinal tract, and (2) kinking and stenosis of the bowel by bands and membranes; in other words, we may speak of "stasis of gravity" and "stasis of obstruction." These two conditions are as a rule associated; but in such cases one condition generally preponderates and overshadows the other.

ANATOMICAL CONSIDERATIONS.

In the study of ptosis the first matter to consider is the manner in which the various parts of the gastro-intestinal tract are maintained in position against the force of gravity which is constantly tending to produce downward displacement in the erect position assumed by man. If we glance at the longitudinal section of the abdomen we are at once struck by the fact that the shape of the abdominal cavity proper, as distinct from the pelvis, is that of an inverted cone. It will also be seen that the posterior abdominal wall forms a shelf inclined at an angle of about 50 degrees, on which all the heavy organs rest. The

majority of the organs are supported on this shelf by peritoneal folds and mesenteries, by pads of fat, and by the abdominal pressure maintained by the anterior abdominal wall. In the case of the duodenum and the ascending and descending colon, we also have direct attachments to the fascia of the posterior abdominal wall a state of things brought about by the fusion and disappearance of the peritoneal coverings of the gut and parietes where these come in contact. If one of these means of support is lessened, equilibrium is disturbed and ptosis results. Thus ptosis is in the early stages localised, the commonest condition being either mid-line ptosis where the stomach and transverse colon are affected, or rightsided ptosis where the excum is the organ at fault. In many cases the condition does not progress further; but on the other hand, if stasis is caused by the ptosis, we get distension behind the affected part, with general ill-health and resultant absorption of fat and loss of muscle power. This combination of factors brings about general ptosis of the intestinal tract, and finally of the solid viscera; in other words, we get the condition known as Glénard's disease.

Mid-line Ptosis.—For practical purposes we may look on the stomach as being suspended at either end—on the left by the esophagus and gastro-phrenic ligament, on the right by the strong free edge of the gastro-hepatic omentum containing within its layers the bile duct, the hepatic artery and the portal vein. The remainder of the gastro-hepatic omentum attached to the lesser curvature is a weak peritoneal fold, and cannot provide material support. In the same way the transverse colon is slung from the firmly fixed splenic and less fixed hepatic flexures and is suspended from the posterior abdominal wall by its meso-colon and from the greater curvature of the stomach by the gastro-colic omentum. If, in the course of development, the two anterior layers of the great omentum fail to fuse with the two posterior layers (thus obliterating the omental bursa) and with the anterior surface of the colon, this part of the intestine loses a material support. It is

also to be noticed that neither the body of the stomach nor the transverse colon rests on the shelf which I have described From these facts it is evident that the stomach and transverse colon depend largely on abdominal pressure for their support. If for any reason the musculature of the anterior abdominal wall should be weak, and especially if this is associated with constipation and loading of the colon, ptosis must inevitably occur, and if the omental bursa has not been obliterated as mentioned, the colon will prolapse to even a greater degree than the stomach. As soon as any sagging takes place the fixed pointsnamely, the first stage of the duodenum and the hepatic and splenic flexures—will be dragged on and a certain amount of kinking result: thus stomach and bowel will have greater difficulty in emptying, there will be retention of their contents, more weight will be thrown on their supports, causing an increase in the sagging, and so a vicious circle is set up and symptoms are produced.

Right-sided and Mobile Cacum.—Right-sided ptosis and mobile cæcum are one and the same condition. Normally the ascending colon is firmly fixed on the shelf of the loin by peritoneal fusion, but in as many as 20 per cent. of subjects this fusion is incomplete or does not occur at all. As a result the execum tends to sag, frequently bringing with it the right kidney. When this occurs the eacum is suspended between the fixed hepatic flexure and the last stage of the ileum. If the fixation at the former site does not stretch, the flexure is dragged on and a sharp angle is formed, while, if there is not a long mesentery to the terminal ileum, here, also, a kink and consequent stasis are produced. The attachments of the hepatic flexure, however, frequently do stretch, and thus we get prolapse of the cæcum, ascending colon, and right half of the transverse colon.

These conditions of local ptosis are frequently the first steps in the production of general sagging of the intestinal tract. I have seen cases with the stomach well below the umbilicus, the dependent part of the third stage of the duodenum resting on the promontory of the sacrum, the small intestines in the pelvis, and the whole of the colon provided with such a long mesentery that it was possible to bring it, including even the splenic flexure, which is the last part to give way, completely out of the abdomen through a laparotomy incision. In such cases the bowel is dilated, its wall is markedly atonic, and serious stasis results.

Bands and Membranes.—We have now to consider the presence of the various bands and membranes which have been described in connection with the alimentary tract. No one who carefully explores a number of abdomens can doubt the frequent presence of one or other of these bands or so-called "adhesions"; and when we find that their presence is in many cases associated with a certain set of symptoms which are always alleviated and frequently completely abolished by the division of these adhesions, I think we are justified in looking on them as the cause of much abdominal discomfort.

A great deal of controversy has raged, and will still rage, around the ætiology of these conditions. From amongst the many conflicting and often contradictory opinions I have, as regards each condition, adopted and frequently modified that explanation which fits in best with my personal observation and experience. I do this in the hope that it will stimulate other surgeons to a closer study of the intra-abdominal conditions found during operation, and likewise the physicians to re-examine many of their patients with indefinite abdominal troubles, in the light which recent research has thrown on the subject. I believe that we shall arrive at the true cause and correct treatment of these conditions by means of the work not of one but of many. It will assist us in our consideration of the ætiology of these bands, &c., if at the outset I state that I am not dealing with the very varied adhesions which may result from inflammation, although undoubtedly these also frequently produce stasis. I am referring only to those bands, membranes, or peritoneal folds which are not adhesions in the ordinary sense of the term. They are too regular and constant in their position and extent and the arrangement of their blood vessels, and lack the opaque scarred appearance of inflammatory adhesions.

I propose to deal with these bands, &c., seriatim, describing them briefly. In every case I hope to be able to prove that these bands are embryonic in origin, though undoubtedly they may become thickened and otherwise altered by the strain thrown on them in pathological conditions of the bowel. I also believe that in many cases they produce no symptoms, and that it is only in those cases in which they are well developed or associated with more or less marked ptosis that they cause trouble.

- (1) Gall-bladder Duodenum Band.—The first band to be considered is the fold of peritoneum, which frequently extends from the under suface of the gall-bladder to the first stage of the duodenum (Fig. 1), and sometimes down unto the anterior aspect of the transverse colon. In common with other observers I have found this band in the fœtus, and it is undoubtedly due to a persistence of the fold of peritoneum which the gall-bladder as it buds out of the common duct draws out of the ventral mesogastrium. It a band such as this is associated with ptosis of the stomach, it is obvious that the kinking of the first stage of the duodenum will be more marked.
- (2) The Mesocolic Band.—The mesocolic band first described by Mayo, which suspends the antimesenteric border of the first few inches of the jejunum from the under surface of the transverse mesocolon (Fig. 2). This band also I have found in the fœtus. It is, I believe, due to fusion between the peritoneum of the mesocolon and that covering the jejunum. In cases of ptosis of the small intestine secondary to obstruction further on in the tract, I have often seen a sharp angle produced at the duodeno-jejunal flexure causing stasis in the duodenum, as evidenced by its dilated condition. Where, however, this mesocolic band is present, it tends to keep the angle open, and thus

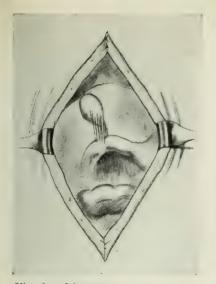


Fig. 1.—Diagram showing cholecysto-duodenal band.



Fig. 2.—Diagram showing mesocolic band.



Fig. 3.—Shows Lane's ileal kink, with the band of peritoneum which produces it. (Mayo, Surg. Gynæc. and Obstet., March, 1911.)

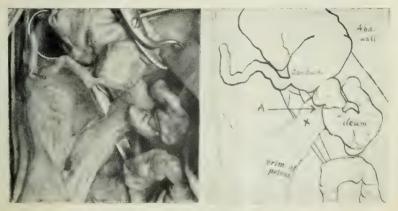


Fig. 4.—Photograph (and tracing) of creal region in a factus, 28 cm. long, showing terminal ileal kink (Λ), and the fold (\times) producing it.



obviate the formation of such kink. Personally, I have never seen a case in which I considered this band as assisting in producing duodenal stasis, and I believe its action to be mainly conservative. Lane describes other bands which "run upwards and outwards from the commencement of the outer aspect of the jejunum to the peritoneum lining the adjacent abdominal wall," and considers that they are adhesions acquired in an effort of Nature to support a sagging small intestine.

(3) Lane's Ileal Kink.—The general appearance of this condition is best understood by reference to the drawing (Fig. 3) originally published by Mayo, and accepted as correct by Lane. This band, found in connexion with the last few inches of the ileum, is generally triangular in shape, and extends from the free surface of the ileum to the peritoneum at the brim of the pelvis; not only does it in this way tie down the terminal ileum, but it causes a rotation of the bowel at the point of its attachment, and when it is divided the ileum, as it were, rolls out of it. I have examined this region in a number of infants and embryos. In 20 per cent. I have found some abnormal peritoneal attachments. In some cases the appearances were identical with that described as Lane's kink in the adult, and such a condition in the fœtus is illustrated in Fig. 4. In others there was a more or less extensive fold which corresponds to that described by Reid, and called by him the genito-mesenteric (Fig. 5). This fold is attached above to the mesentery of the terminal ileum, and frequently extends on to the lower aspect of the circumference of the bowel. Below it passes downwards to be attached to the posterior abdominal wall along the line of the right spermatic or ovarian vessels, often being continuous below with the suspensory ligament of the ovary. Again, I found in an embryo 20 cm. long in which the cacum had not yet descended, the under-leaf of the ileal mesentery firmly adherent to the posterior parietal peritoneum well up in the iliac fossa (Fig. 6), and it was easy to see that as the intestine descended this bend might be pulled out into the

fold resembling Lane's kink. From these observations I consider that the condition is always congenital in origin and due either to persistence of Reid's fold or to an excessive peritoneal fusion. The adhesion, fusion, and sometimes subsequent absorption of two layers of peritoneum lying in contact, normally occur in many situations in the evolution of the adult condition from that of the embryo, so that it is but a small step to the supposition that a similar process may occur at the lower end of the ileum. Lane believes that this band is due to "the crystallization of lines of force" developed by Nature in the endeavour to hold the execum out of the pelvis. I have, however, found this band unassociated with mobile cæcum, and vice versâ have demonstrated its absence in many cases of marked prolapse of that organ. If it were developed as an accessory suspensory ligament of the cæcum we should expect it in connexion with the upper leaf of the mesentery, as has been pointed out by Gray and others

In whatever way this fold is formed, there is, at any rate, no question that kinking is frequently produced, especially if ptosis of the cæcum be present and that the lumen of the bowel is reduced by this kinking as well as by the rolling in of itself on its mesentery, as I have already described.

(4) "Jackson's Membrane."—We have now to consider the bands and membranes which are found in connexion with the execum and ascending colon, and to which the generic term "Jackson's membrane" is given. Lane has for years described adhesions tying the prolapsed execum to the right lateral abdominal wall, but Jackson in 1909, under the title of "membranous pericolitis," described a thin vascular veil extending over the ascending colon. Since then many surgeons have described various forms of membranes or veils in this region, till at present I think that we may apply the term "Jackson's membrane" to any membrane filmy or in parts fibrous which extends over whole or part of the ascending colon and execum,



Fig. 5.—Photograph (and tracing) of cæcal region in a fortus 26 cm. long, showing Reid's genito-mesenteric fold (×), extending into suspensory ligament of ovary (ov.). a, Slips of paper underneath fold and ovary; ut., uterus. Note puckering of ileum at b.



Fig. 6.—Photograph (and tracing) of cæcal region in a fætus 20 cm. long, showing undescended cæcum and fold of peritoneum (×) fixing terminal ileum in right loin and producing angulation. a, Appendix; b, ileum; c, inner surface of reflected flap of abdominal wall; d, slip of paper underneath peritoneal fold.

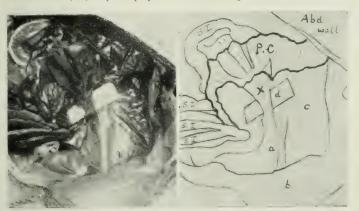
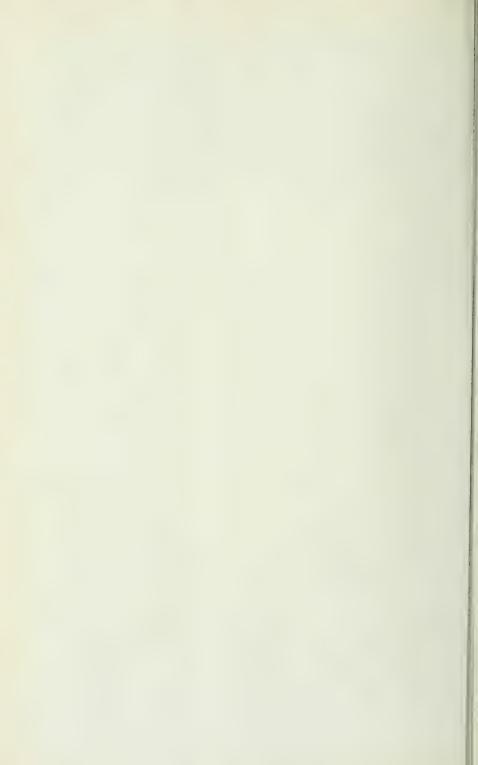


Fig. 7.—Photograph (and tracing) of left lower abdomen in factus 20 cm. showing fusion (\times) of under-leaf of mesentery of pelvic colon (P.C.) to peritoneum at the pelvic brim (a) producing the sigmoid kink; b, inner surface reflected flap of abdominal wall; c, left iliac fossa; d, slip of paper underneath fold.



attached externally to the parietal peritoneum, and blending internally with the peritoneum covering the anterior aspect of the colon, and sometimes even continued on into the great omentum. This condition also I consider congenital. In common with many others I have found fine veil-like adhesions extending to the lateral abdominal wall from the surface of the colon in the fœtus, and it is easily understood if such peritoneal fusion occurs while the cæcum is incompletely descended and rotated, that as the bowel descends and rolls inwards they will be pulled out into just such a membrane. In fact, such a condition was described years ago by Jonnesco and Juvara. who called it the "parieto-colic fold," and it has been found by different observers in from 10 to 20 per cent. of fœtuses after the sixth month. It has been suggested by Gray and Anderson and by Cottee that this membrane is due to a prolongation of the right edge of the great omentum out over the colon, with fusion to the anterior aspect of the bowel and to the parietes, and I have found in one fœtus an arrangement strongly confirmatory of this view.

In many cases where stasis is present these membranes are in places distinctly fibrous. This thickening, in my experience, is found most frequently opposite the crest of the ilium and just below the hepatic flexure. This condensation is, I believe, due to secondary inflammatory change, and this inflammation may extend so as to bind the ascending colon to the right half of the transverse colon in cases in which the latter is ptosed, bringing about the condition known as double-barrelled colon. When the ordinary veil-like type of membrane is divided, peritoneum is found underneath; but if the secondary inflammatory changes, with thickening, have taken place, such a division leaves a raw surface, which requires to be covered in. There can be no question that in many cases these membranes cause a narrowing of the bowel. I have often been astonished at the way in which the ascending colon will unroll and expand as they are divided. The densest

bands are found associated with mobile eacum, but, just as in the case of the ileal kink, I have seen a well-marked Jackson's membrane on a colon in perfect position.

- (5) The Splenic Kink.—This is due to the fact that the phrenico-colic ligament is very dense, and is the last normal attachment of the bowel to stretch in cases of ptosis: in fact, here the increased drag in such cases brings about a strengthening of this ligament, as pointed out by Lane. The result is that there is a very sharp angle produced, and the more the transverse colon is ptosed the greater the obstruction to its emptying itself. The acuteness of the angle is also increased if the descending colon should happen to have a mesentery. In advanced cases also the two limbs of the angle are bound together by more or less dense adhesions, due to secondary inflammation.
- (6) Pelvic Colon Kink.—Lastly, we come to the kink in the pelvic colon called by Lane the "last kink." This part of the colon should normally have a free mesentery, but frequently the meso-colon just opposite the brim of the true pelvis is shorter than that above or below. On examining this we find that it is due to a shortening of the under-leaf of the mesentery, and on this shortened part we find one of those "white lines" which have been pointed out by Toldt as signifying the limit of fusion between two peritoneal surfaces. This fusion is embryonic in origin, and has taken place between the outer fold of the mesosigmoid and the parietal peritoneum at this point. I have found a very beautiful example in a feetus 20 cm. long (Fig. 7). The attachment of this shortened mesentery to the pelvic wall is very close to the ovary, and any drag is easily communicated to that organ, especially in those eases in which secondary inflammation has caused condensation and contraction with implication of the ovary in the fold. This binding down of the colon causes a very distinct kink, and if the bowel above is very loose it, when loaded with faces, will fall over into the pelvis, thus tending to aggravate the kink.

SYMPTOMS.

As regards the symptoms produced by these ptoses and kinks a whole book might be written, for with lesions in such different parts of the intestinal tract it is obvious that the predominating symptoms will vary with the site of the chief trouble. Clinically, however, I would divide the symptoms into (a) toxic and (b) obstructive.

- (a) Toxic.—This group of symptoms is best marked in eases with extensive general ptosis, when a very characteristic picture is produced. The patient, generally a woman, has a muddy complexion and dark rings under the eyes. The skin is harsh, dry, and pigmented, especially in the axillæ and groins; the thorax is long and the lower ribs depressed; the breasts are small and nodular; the upper abdomen is narrow and contracted, the lower protuberant, and the abdominal muscles are atrophied. She complains of headaches, bad appetite, a feeling of depression and wretchedness, and general lack of energy. ('onstination is marked as a rule, and there may be mucus in the stools. She complains of abdominal discomfort, a sense of fulness and distension, with perhaps nausea and at times vomiting. Such is the picture of an extreme case, but we find all gradations in proportion to the amount of stasis present until, in cases of localised ptosis, the toxemia is overshadowed by the obstructive symptoms.
- (b) Obstructive Type.—Here the symptoms vary with the site of the local trouble. In kinking of the duodenum from mid-line ptosis or of the duodeno-jejunal flexure we get a train of symptoms which are suggestive of gastric or duodenal ulcer—for example, pain after food, distension and vomiting, with tenderness to the right of the middle line, and sometimes hæmatemesis. This class also includes many cases which are sent to the surgeon to have gall stones removed, or are treated by the physician as suffering from nervous dyspepsia, chronic gastritis, &c. Rest in bed immediately relieves such cases, and if accompanied

by a course of massage and fattening treatment, relief may be experienced for a considerable time.

If a Lane's kink is present the symptoms are very similar to those of chronic appendicitis. I have operated on several such cases in which the appendix had already been removed. These patients complain of fulness and pain some time after food associated with constipation and tenderness in the right iliac fossa. I have found in several cases marked distension of the left abdomen some hours after a meal, due to its retention in the small intestines. At times attacks of afebrile colic are complained of.

In mobile cæcum and in constriction by bands of the ascending colon or hepatic flexure there is tenderness in the right iliac fossa, a distended cæcum can be made out and a succussion splash can frequently be elicited. Many of my patients of this type have complained of burning pain in the right lower abdomen, especially in the evenings or middle of the night. The pain may culminate in a sharp attack of colic, and in my experience patients with trouble in this region suffer more pain than those with any other form of localised ptosis.

Splenic kink is generally associated with mid-line ptosis, and causes much the same symptoms. It is frequently accompanied by a dragging, aching pain with a sense of distension in the left hypochondrium, and the patient often states that such pain is relieved as flatus is felt to pass on.

The last, or sigmoid kink, may be associated with a chronic pain in the left iliac fossa, which is often relieved by the passage of a motion. In females this dragging pain is often worse at the menstrual period, a fact which is easily explained by the close connexion to the ovary.

All these bowel symptoms are associated with chronic constipation, or in some cases with diarrhea due to the irritation of the retained faces. In all the toxic symptoms above described are more or less marked. Frequently, of course, we have several kinks in the same subject, so that we get the symptoms grouped in very

different ways, but with experience it is generally an easy matter to differentiate. Of late, since the number of these cases which I have seen has reached a respectable total, I have experienced little difficulty in arriving at a correct diagnosis from a study of the clinical symptoms combined with a careful physical examination. The greatest help can be gained from a study of a series of x-ray photographs, taken at different periods after a bismuth meal, and I strongly advocate the routine adoption of this method of confirming the diagnosis. In many cases, as I have stated above, these kinks, &c., may be present without producing stasis, and in a case with several of these conditions present—some producing stasis and some not—the bismuth meal shows us clearly which part of the intestine is at fault.

A consideration of the symptoms of chronic intestinal stasis would not be complete without some reference to what Lane terms "end results." He believes that gall stones, gastric and duodenal ulcers, cancer of the stomach and intestines, chronic mastitis, goître, atheroma of the arteries, chronic arthritis, and tuberculosis all arise from stasis. Perhaps we may not agree with him entirely, but at any rate it is obvious that stasis must lead to the presence of micro-organisms higher up in the intestine than normal, and in this way cause gastric or duodenal ulcer and infection of the bile ducts. There is also an obvious connexion between chronic irritation at the flexures and kinks and the production of cancer at these sites.

TREATMENT.

The treatment of these cases of chronic stasis is a subject of lively controversy. For example, I may mention the two extremes: On the one hand, Sir Arbuthnot Lane advises ileo-colostomy or complete colectomy in all severe cases, while, on the other hand, orthopædists such as Goldthwait claim to be able to cure even most advanced cases by belts, exercises, &c. Personally, after treating many of these cases, I consider

we may divide the treatment into (1) prophylactic, (2) medical, (3) local operative, (4) radical operative.

- (1) Prophylaxis.—I would like to impress on the profession my belief that the abdominal muscles are the most important voluntary muscles in the body. The abdominal organs largely depend for the maintenance of their positions on the support of these muscles, and if they are properly developed by suitable exercises, the possibility of ptosis occurring is reduced to a minimum. The other prophylactic measures I would urge are the acquiring in early life of a regular habit of emptying the bowels and the avoidance of the routine use of aperients. If there is any costiveness it should be combated early by the regulation of the diet and the use of liquid paraffin.
- (2) Medical Treatment.—A great many cases of stasis, if seen in the early stages, can be rendered comfortable by the use of an abdominal belt, the practice of exercises which develop the abdominal muscles, and the internal administration of paraffin. The latter can be taken in doses of 1 to 4 drachms three times a day in the form of liquid paraffin (British Pharmacopæia), flavoured with one of the essential oils, such as cinnamon or peppermint. A few patients find it impossible to take it in this form, and then one or other of the proprietary preparations may be ordered.

(3) Local Operations.—The local operative procedures are legion in number, and I cannot do more here than specify those I have employed and found satisfactory.

In mid-line ptosis I, as a rule, perform Rovsing's gastropexy, together with shortening of the gastro-hepatic and gastro-colic omentums, but in some cases I have employed Coffey's omentopexy. If the liver has also prolapsed and would endanger the success of the gastropexy, I first fix it up by shortening the falciform ligament and suturing the free edge of the liver to the anterior parietal peritoneum. If the upper abdomen is very contracted I have enlarged it after the manner advocated by Coffey and Rovsing.

Should the splenic flexure be slung very high, I divide

the costo-colic ligament and open up the angle by suturing the descending colon to the left lateral abdominal wall after dividing any adhesions which might bind the two limbs of the angle together.

In kinking at the duodeno-jejunal junction I fix the jejunum to the under-surface of the transverse mesocolon in such a way as to open out the angle; in other words, I reproduce the mesocolic band.

For Lane's ileal kink I divide parallel to the line of the bowel and suture the resultant rent vertically, employing if necessary an omental graft to assist in covering in the raw area.

In mobile dilated execum unassociated with Jackson's membrane I have employed many methods of fixation, and have also enfolded it in cases of marked dilatation. Recently, however, I have used the method of ('offey, which is a combined fixation and plication. If a mobile execum is associated with Jackson's membrane, I divide this prior to fixation. When Jackson's membrane is found without ptosis of the execum, but constricting the colon, I merely divide the membrane, and if any raw surface is left, which occurs in cases of secondary inflammatory thickening, I use an omental graft to prevent adhesion formation.

If a double-barrelled colon be present, or if the bands in the neighbourhood of the hepatic flexure are very dense, and I consider them likely to recur, I do a lateral anastomosis between the excum and the transverse colon, or—and I think this the better procedure—excise the excum, ascending colon, and right half of the transverse colon, and restore the continuity of the intestine by implanting the end of the ileum into the remaining part of the transverse colon. In all cases of trouble in the excal region I also remove the appendix. Where the last or sigmoid kink is causing trouble I divide the shortened leaf of the mesentery transversely and suture it vertically. Many times I have found it necessary to do two or more of these conservative operations at the same time; for example, I have divided

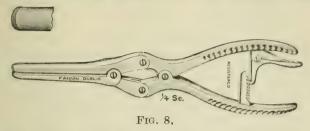
an ileal kink and Jackson's membrane, fixed the cœcum in the loin, freed the splenic and sigmoid kink, and finally performed a Rovsing's gastropexy with expansion of the upper abdomen.

(4) Radical Operations.—The radical procedures are those so strongly advocated by Lane, and are two in number. The first consists in short-circuiting the intestinal flow by ileo-colostomy. This procedure he employs in all cases of stasis which require operation, and in which the colon is not loose nor the abdominal wall lax. The ileum is divided about six inches above the ileo-cæcal valve, and its proximal end implanted into the lateral aspect of the pelvic colon as low down as possible, and in all cases below the site of the last kink. Lane claims that "the last kink," if well developed, obviates in these cases the reverse flow of the intestinal contents up along the colon, which was the troublesome sequela of many of his earlier operations. If the last kink is not well developed, he produces one by suturing the mesentery of the colon above the anastomosis to the peritoneum over the pelvic brim.

The second and most radical procedure of all is complete colectomy. This operation Lane performs in all cases in which the whole colon is loose. In such cases the entire colon, including the hepatic and splenic flexures, is provided with a mesentery, and can be lifted out of the abdomen, making the performance of the operation safe and astonishingly easy. Personally I reserve these radical procedures for the cases in which I consider that multiple conservative operations (of course carried out at the one sitting) would not be effective, or in which the length of time necessary for their performance would endanger the life of the patient. My own opinion is that ileo-colostomy is not a good surgical procedure, and I believe that where conservative operations are contraindicated the best operation is complete or partial colectomy.

In the performance of colectomy I use an extra broad-

crushing clamp (Fig. 8) specially made for me by Messrs. Fannin. This instrument has blades 1 in. wide, and presses out laterally the muscular and mucous coats of



the bowel, leaving the serous intact. A ligature is placed round either end of the crushed part and the bowel divided between. In this way the possibility of infection is reduced to a minimum and the invagination of the ends of the severed gut by purse-string sutures is rendered easy.

The patients after complete colectomy make good recoveries, put on flesh and gain better health than they have experienced for years; in fact, they derive the greatest benefit from the removal of their great bowel, which had lost its original function and degenerated into a cesspool, as tersely expressed by Lane.

From the foregoing it will be seen that in my treatment of these cases I have gradually felt my way up from the performance of small conservative operations to the adoption of radical procedures in suitable cases. The majority of my cases are too recent to allow me to judge of the final outcome, but the immediate results have been most satisfactory and encouraging. In those cases which have been operated on—one, two, or three years ago—the improvement, which in some was very startling, has been maintained. The result of my experience has been to convince me of the importance of intestinal stasis, and I believe that here a great opportunity is presented to the surgeon for the relief and cure of much unnecessary suffering.

In conclusion, I would like to express my deep sense of

indebtedness to Mr. Gray for coming over to address us, and also to Professor Dixon for the facilities he most kindly gave me for the study of the intra-abdominal conditions in infants and fœtuses.

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ART. V.—The Origin of some of the Hospitals of Dublin.^a
By T. Percy Kirkeatrick, M.D. Dubl.; M.R.I.A.;
Fellow and Registrar of the Royal College of
Physicians of Ireland: Physician to Steevens' Hospital,
Dublin.

If one looks at the earliest map of the City of Dublin, that published by John Speed in 1610, one will see several places of interest in the medical history of the city. Most prominent, perhaps, is Trinity College, standing well to the east of the city, explaining the term *juxta Dublin*, by which it is commonly described. The Bridewell, which stands a little to the west of the college,

^a A Presidential Address to the Section of State Medicine in the Royal Academy of Medicine in Ireland, Friday, January 16, 1914.

is the building which afterwards became Trinity Hall, and there the College of Physicians took its origin under the presidency of John Stearne in 1654. Close to the river and not far from the front of the college is a building described as Carey's Hospital, which was founded in 1602 by Sir George Carey, Treasurer at War for Ireland. as a home for "maymed souldiers." In 1611 the house was bought by Sir Arthur Chichester, then Lord Deputy, and was used by him as his residence. Subsequently the house passed to Sir Samuel Smith who leased it to the Right Rev. Edward Parry, Lord Bishop of Killaloe, who died of plague there in 1656. Parry's son John, Lord Bishop of Ossory, afterwards bought the lease of the house, and in 1661 the first Parliament in Ireland after the Restoration met there. In 1675 the house was leased to Sir Henry Forde, Chief Secretary to the Lord Deputy, for the use of the two Houses of Parliament, which continued to meet there for many years. In 1728 the place had become almost ruinous, and was subsequently taken down and the new Houses of Parliament, the present Bank of Ireland, were erected on the site. While the Parliament House was being built the Parliament met in the Blue Coat Hospital on Oxmantown Green.

Somewhat further east, on the south side of the river, was a place known as the Steyne. Here a leper hospital had been founded in 1220 by Henry de Londres, Archbishop of Dublin, for the accommodation of the pilgrims going to the shrine of St. James of Compostella in Spain, the patron saint of the lepers. It is from this hospital that Lazar Hill took its name, a name changed to Townshend Street in 1771 in honour of the then Viceroy. The present Westmorland Lock Hospital stands not far from the site of the old Steyne Leper Hospital.

To the south-west of Trinity College is marked the Church of St. Stephen, and in connection with that church there was founded in 1344 a leper hospital which persisted for many years, and on the site of which the present Mercer's Hospital was afterwards built.

To the west of the city, just outside the New Gate, is St. John's House, a hospital founded at the end of the twelfth century by Alrued le Palmer. This hospital in the reign of Edward III. accommodated 155 sick persons, besides the officials connected with the neighbouring monastery. When the monasteries were closed in 1542 by Henry VIII. the building was used for some time as a sort of poorhouse for the city. The tower belonging to this house was standing as late as 1800, but has since completely disappeared, and the site is now occupied by the Church of SS. Augustine and John, Thomas Street.

Just within the city wall, and running from the New Gate in a south-west direction, was the street known as Back Lane. In this street, on the site of the present Tailors' Hall, which was built in 1705, there stood in the seventeenth century a house with a most interesting history. It appears first to have been used as a kind of university belonging to the Roman Catholic Church, and was known for some time as the "Mass House." In 1629 this house was given to Trinity College as an extra residence house, and it then got the name of Kildare House, or Kildare Hall. During the Commonwealth the house was used as a military infirmary, and after the Restoration it was converted into a sort of poorhouse or house of correction for the city. In the time of William III. it was again used as a military infirmary. In 1702 the military hospital was changed from this house to one over St. Audoen's Arch, where it continued till 1730. In that year, the house over St. Audoen's Arch being ruinous, the military hospital was moved to James's Street, where it remained till 1787, when the present Royal Infirmary was built. All that is left of the old hospital in James's Street is the gateway, over which the military arms can still be seen.

John Howard, the philanthropist, visited this hospital in James's Street in the year 1783, and of it he says:—"I shall take the liberty to speak a word in favour of the military, who are crowded in their hospital (which is an

old and incommodious building) into a kind of enclosed cases, swarming with vermin, and are almost stifled, most of the windows being fastened down." From such an account it would seem that the new military infirmary was badly needed.

Not one of these various hospitals, with the exception of the military hospital, survived the seventeenth century. Most of them were closed at the time of the suppression of the monasteries by Henry VIII, in 1542, and the times were too troublous for any successful effort at replacing them. Just at the close of the century, on November 27, 1699, a petition was presented to the Corporation of Dublin by certain of the Commons, asking that a plot of ground, known as "Little Green," on the Abbey Green in Oxmantown, should be granted for the purpose of building a hospital for the "reception of aged, sick, and other diseased persons." The ground had already been granted by the Corporation as the site for a church, but the church had been built elsewhere, and the ground was still vacant. The petitioners stated "that there are severall well-disposed persons who now would contribute largely to such a work if the same were sett forwards, and a piece of ground appropriated to the same, which opportunity, if lost, may not be again met with." In the minutes of the College of Physicians for the same year we find that "ve attending of an hospitall to be founded by ye city of Dublin for ye sick" was under consideration, but though the Corporation granted the site, nothing further seems to have been done towards founding the hospital.

Though totally unprovided with hospital accommodation there was urgent need for it, for the city was growing at a very rapid rate. In 1644 the population was estimated at 8,159 persons; in 1681 this number had risen to 40,000, and in 1745 to 121,450. The war between James II. and William III. had resulted in a great increase in the city poor, among whom there was much sickness. During the eighteenth century this increase in

the population continued, and John Ferrar in his "View of Dublin," published in 1796, stated that Dublin "has increased within the century more than any other city in Europe, London excepted." While there was much poverty there were also many wealthy persons in the city and these latter seem to have been profoundly moved to charity by the sickness and suffering about them. It is estimated that at the beginning of the eighteenth century the death rate in Dublin reached about fifty per thousand of the population, and little could be done to stay the ravages of infectious disease among the crowded houses of the poor. The College of Physicians, under the wise direction of Sir Patrick Dun, was doing much for the improvement of medical practice, and the Fellows of the College were, as we have seen, fully awake to the need for hospital accommodation for their patients. The establishment of a Medical School in Trinity College in 1711 must also have emphasised this need. Due, no doubt, to this combination of circumstances we find in the second quarter of the eighteenth century that quite a number of charitable hospitals came into existence in the city, and some of these have continued in their good work till the present day. I propose in the following remarks to indicate briefly the early history of some of these institutions.

At the end of the seventeenth century there was practising in Dublin a physician named Richard Steevens who had graduated as M.D. in the University of Dublin in the summer of 1687. Richard was the son of the Rev. John Steevens, an English Royalist clergyman, who, for preaching against Oliver Cromwell, had been obliged to leave England, and had taken refuge in Ireland, bringing with him his two infant children, Richard, and his twin sister, Grissell. At the restoration, in 1660, John Steevens was appointed Vicar of Athlone, in place of Richard Lingard, who had held the office from 1633 till he was displaced by the puritan preacher, Samuel Cox, the nominee of Cromwell. Lingard was at this time appointed Senior Fellow of Trinity College and Regius Professor of

Theology in the University. At the time of his father's appointment to Athlone Richard Steevens was about six years old. His father gave him an excellent education. probably in the Latin School at Athlone, and in the year 1671 he entered Trinity College. In 1674 he gained a Scholarship of the House, and in 1675 he graduated B.A. and in 1678 M.A. Richard seems to have at first studied for the Church, and is said to have been admitted to deacon's orders, but his father died in 1683, and subsequently Richard seems to have changed his mind with regard to his profession, for in 1687 we find him admitted to the degree of M.D. of the University of Dublin. Five vears later, in 1692, he was nominated in the Charter of the King and Queen's College of Physicians as one of the Fellows of that body. In 1703 he was elected President of the College, and again on St. Luke's Day of 1710. On the 14th December of that year he made his will, and died on the next day. By this will be bequeathed, besides minor legacies, all his real estate to his sister. Grissell, for her natural life, and after her death to trustees who should with "all convenient speed" after the death of his sister "build or cause to be built or otherwise provide one proper place or building within the city of Dublin for a hospital for maintaining and curing from time to time such sick and wounded persons whose wounds and distempers are curable." Law proceedings followed between the trustees and Madam Steevens for the establishment of the will, and on the 15th of May, 1713, judgment was given by the Right Hon. Sir Constantine Phipps, Knt., Lord High Chancellor of Ireland, establishing the will "against all and every person or persons claiming or to claim" against it. On the 11th of July, 1717, Madam Steevens, by indenture, gave to fifteen trustees the sum of £2,000 to purchase a piece of land on which to build a hospital in accordance with the wish expressed in her brother's will. These trustees met at the Palace of St. Sepulchre on the 14th of August, 1717, and decided to purchase a plot of ground "belonging to Sir Samuel Cooke, lying between the end of St. James's Street and 101

Bow Bridge, containing about three acres and a half." This land was eventually purchased, and the building of the hospital was begun in the year 1720. Captain Thomas Burgh, Engineer General of Ireland, and one of the trustees, was the architect, and the whole work was done by direct labour, no contract whatever being entered into for the building. It is interesting to note that this Captain Burgh was also architect for the Library in Trinity College and for the Royal Barracks. Though the building was sufficiently far advanced for the trustees to meet there on July 14th, 1726, yet it was not opened for the reception of patients till the 23rd day of July, 1733. Since that time the doors of the hospital have never been closed to the sick poor, and the building remains to this day a monument to the skill of the architect and a credit to the workmanship of the Dublin builders. From the completion of the hospital Madam Steevens lived there till her death on March the 18th, 1746-7, and in the Board Room hangs her picture, painted in 1741 by Michael Mitchell, a Dublin painter.

Though Steevens' was the first of our modern hospitals founded and designed, yet it was not the first to open its doors. In 1723 six Dublin surgeons, by name George Duany, Patrick Kelly, Nathaniel Handson, John Dowdall, Francis Duany, and Peter Brennan, took a house in Cook Street, and there opened a hospital for a few intern patients. This proved such a success that five years later, on August 12th, 1728, they moved to a larger house on the Inns Quay, and gave their hospital the name of the Charitable Infirmary. This house was next door to that which had been occupied by Sir Patrick Dun, and in which at that time Lady Dun lived. Sir Patrick had bequeathed this house on his wife's death to the College of Physicians, and in it during Lady Dun's lifetime the College held its meetings. In 1741 the old house on the Inns Quay, being ruinous, was rebuilt, and of the new buildings there is a drawing in Peter Wilson's Dublin Magazine for 1762. In 1786 the site of the Charitable Infirmary on the Inns Quay, being required for the Four Courts, the hospital

was removed to 14 Jervis Street, the old family mansion of the Earl of Charlemont. In 1803 a new hospital was built on this site, which continued in use till 1879, when the contract was signed for the present building, which was finished in 1886. The old Presbyterian Mission Church, next door to the present hospital, is now fitted up as apartments for the resident medical staff.

In 1724-5 Mary Mercer, daughter of George Mercer, M.D., and Fellow of the College of Physicians, built on the site of the old leper house of St. Stephen a stone house as a residence for twenty poor girls. It seems after the completion of the building Miss Mercer changed her mind as to the use she would put it to, and the girls were never admitted to it. On May 20th, 1734, she conveyed her interest in this house to certain trustees in order that it should be opened as a hospital "for the reception and accommodation of such sick and diseased persons as may happen to labour under diseases of a tedious and hazardous cure, such as the falling sickness, lunacy, leprosy, and the like." It would seem that Mary Mercer designed that her hospital should be complementary to that founded by Dr. Steevens, which was intended essentially for persons who were curable. The hospital was at once opened with ten beds, and on the 4th of March of the following year Mary Mercer died. There is a picture of the hospital as it stood in 1735 in Sir Charles Cameron's "History of the Royal College of Surgeons." In 1738 the hospital was enlarged and practically rebuilt—a picture of the new building being given in Peter Wilson's Dublin Magazine for 1762. In 1749 the hospital was incorporated by Act of Parliament. In 1872 the hospital was again enlarged by the addition of the Napier Wing, built at the expense of the Right Hon. Sir Joseph Napier, Bart., and in 1888 the Ledwich Wing was added on the site of Nos 1 and 2 Mercer Street. This site had for a time been occupied by the School of the Royal College of Surgeons during the building of their premises in Stephen's Green.

In 1744 the Dublin Charitable Musical Society opened a hospital for incurables on the Blind Quay, now Lower Exchange Street. In 1753 the hospital was moved to a new stone building on Lazar's Hill, near the site of the old leper house of the Steyne. In 1755 there had been opened in Rainsford Street a Lock Hospital for the treatment of women and children suffering from venereal diseases. In 1757 this hospital was moved to the house which had been occupied by the Lying-in Hospital in George's Lane, and in 1768 from there to Clarendon Street. In 1778 the Governors of the Lock Hospital purchased Buckingham Hospital at Donnybrook, which had been built by the Corporation as an isolation hospital for small-pox patients. In 1792 the Governors of the Lock Hospital and the Governors of the Hospital for Incurables changed houses, and to the present day they still continue to occupy the premises they then entered on.

In 1745 Dr. Bartholomew Mosse, the son of a clergyman in Queen's County, who had served abroad for some time as a military surgeon, opened a hospital for lying-in women in George's Lane. This was the first lying-in hospital to be opened in the kingdom, and the day of opening, the 15th of March, 1745, should be marked in red letters in the medical history of Dublin. This house in George's Lane, now South Great George's Street, was situated on the west side, just opposite the opening of Fade Street, and was still in existence, though in a ruinous condition, in 1896. The success of Dr. Mosse's venture was so great that he soon determined to increase his accommodation, and three years later he took the lease of a plot of ground on the north side of Great Britain Street, and there started to build the present Rotunda Hospital. In order to obtain money for the building, Mosse laid out the Rotunda Gardens, and there gave entertainments and concerts. Mrs. Delany, in a letter to her friend, Mrs. Dewes, dated "Delville, February 1750-51," thus describes one of these entertainments: - "Went to Dr. Mosse's gratis breakfast. Dr. Mosse, you must know, is the chief manager and operator at the lying-in hospital, and has gardens laid out for the entertainment of company in the manner of Vauxhall and Ranelagh; and in order to gather together subscribers for the next season he gave a gratis breakfast and a fine concert of music in a large room, which was not open before, and is in the gardens. The music allured us, and we went, D.D. with us, at about half an hour after eleven, the concert to begin at twelve. When we came, with some difficulty we squeezed into the room, which they say is sixty feet long, and got up to the breakfast table, which had been well pillaged; but the fragments of cakes, bread and butter, silver coffee-pots, and tea-kettles without number, and all sorts of spring flowers strewed on the table. showed it had been set out plentifully and elegantly. The company, indeed, looked as if their principal design of coming was for a breakfast. When they had satisfied their hunger the remains were taken away, and such a torrent of rude mob (for they deserve no better name) crowded in that I and my company crowded out as fast as we could, glad we escaped in whole skins, and resolving never more to add to the throng of a gratis entertainment. We got away with all speed, without hearing a note of the music." We can fancy that a similar entertainment at the present day would be attended with similar results, and we can picture the disgust of the fastidious Mrs. Delany at the treatment she received from what she was pleased to call the "rude mob."

The foundation stone of the new hospital was laid with much pomp and ceremony on the 24th of May, 1751, and on the 8th of December, 1757, the building was opened for the reception of patients. In the Dublin Gazette for December 10th, 1757, we read:—"Their Graces the Duke and Duchess of Bedford and a great number of the nobility and gentry, the Right Hon. the Lord Mayor, Recorder, Aldermen, Sheriffs, and Common Councilmen were elegantly entertained at a public breakfast at the Lying-in Hospital in Great Britain Street, accompanied by a grand concert of vocal and instrumental musick. The hospital was then opened for the reception of fifty-two patients, upon which occasion very considerable contributions were received from the company present." Again, in the same paper for December the 13th, is this further notice:—

"This day being Thursday, the 8th of December, the hospital was accordingly opened for the reception of fiftytwo women great with child, who attended in the hall with proper certificates for their admission, and were cloathed by the Governors and Guardians of the Hospital each in a blue callimancoe gown, a red petty coat, shift, handkerchief, cap and apron which were given to them; and on that day Mary Rea, wife of John Rea, of the Parish of St. Nicholas Without, was delivered of a boy, and Elizabeth Knight, wife of John Knight, of the Parish of St. Luke, taylor, of a girl." This must have been an interesting ceremony, the crowd of nobility and gentry, headed by their Graces, inspecting the fifty-two poor women clothed in their blue gowns and "red petty coats." Since that the hospital has made steady progress, both in size and in the amount of good work done, and to-day it remains one of the largest and most successful of the maternity hospitals in the kingdom, and attracts students by its teaching from all parts of the world.

There is one other institution of which I should like to make brief mention, though it was never in the strict sense a hospital for the sick. That is, the City Workhouse. This building was erected in James's Street in 1704 on land which had been acquired some years before for the purpose by the Corporation. At first the house was used as a refuge for adults and children over six years of age, but in 1729 it was converted into a Foundling Hospital for young children. To this institution children were admitted from all parts of the country, and there, after admission, they were to be bred up as Protestants and then apprenticed to some trade. At the gate of the hospital was the celebrated "cradle," a kind of basket fixed to a turn-table, which was exposed to the street on one side and then could be turned into the hospital on the other. Persons placed the child in the cradle, then turned it into the hospital, rang a bell, and then left. The hospital porter received the baby on the other side and was unable to see who had left it there. The babies thus received were put to nurse with Protestant women, who

were hired for the purpose. Difficulties soon arose as the supply of Protestant nurses was not sufficient, and Roman Catholic women had to be taken into the service. As might be expected, many of the children were brought up in the faith of their foster-mothers. This, as the child grew older, entailed on it many inconveniences, such as floggings, confinement in the cellars in chains, and other troubles. To obviate this difficulty, and to remove effectually the children from the influence of their parents, the governors adopted the plan of exchanging the Dublin children with those of Cork. This plan had, however, soon to be abandoned, as it was found that the exposure of the children entailed by the journey from Dublin to Cork in an open cart usually resulted in their death The mortality among the children in this institution was something dreadful. In the year 1749-50, out of 1,468 infants admitted, 420 died. In 1752, out of 691 admissions there were 365 deaths, and in the thirty years ending January, 1826, out of 52,152 children admitted, 41,524 died. We are not surprised to learn that the Committee of the House of Commons, before whom these figures were laid in 1829, unhesitatingly recommended the closing of the hospital. Since that date no foundlings were admitted, and the house has been used as the City Workhouse.

ART. VI.—Some Notes on the Admissions to the Westmorland Lock Hospital, Dublin, since the year 1860.^a By G. Pugin Meldon, F.R.C.S.I.; Senior Surgeon, Westmorland Lock Hospital. [Illustrated.]

[&]quot;The Westmorland Lock Hospital in Townshend Street was opened on the 20th of November, 1792, for the indiscriminate admission, without recommendation, of indigent persons afflicted with venereal disease, and was placed under a Board of Directors, consisting of five physicians and nine surgeons."

^{*} Read before the Section of State Medicine in the Royal Academy of Medicine in Ireland on Friday, January 16, 1914.

So opens a "Report upon Certain Charitable Establishments in the City of Dublin" in the year 1809. The report further states that "this arrangement was found to be defective so far as the surgeons were concerned, as, with the exception of a few individuals, the attendance from the beginning was irregular," and mentions that in 1796 the Board of Directors was convinced that, where a daily and laborious duty is required from professional men, they have a fair claim to be paid for their time and trouble. As a result of this salaried medical officers were appointed.

The hospital at that time accommodated 300 patients, and, as it was somewhat smaller than at the present day, must have been sadly overcrowded. Containing as it did both male and female persons of a not very orderly type, it is not surprising that certain abuses arose, which led to the removal of the male patients, in 1820, to special lock wards in Dr. Steevens' Hospital. Since that date the hospital has been solely for the accommodation of women.

The Fever and Lock Hospital, St. John's Street, Limerick, was first opened with three beds on February 23, 1781. It was subsequently enlarged, and accommodated both male and female patients. It was, however, closed in the year 1849 "consequent on the increase of cholera."

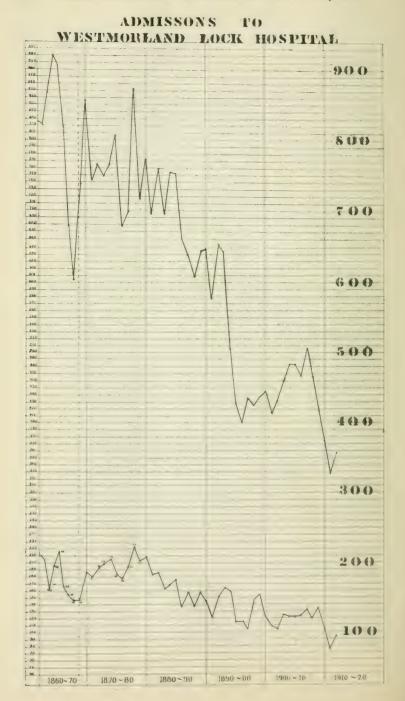
After the passing of the Contagious Diseases Act of 1868, two lock hospitals for women were opened—one in Cork on June 15, 1869, and the other in Kildare on December 6 of that year. The former contained forty-six and the latter forty-two beds. They were under military control, and ceased to exist after the repeal of the "C. D." Act in 1888. From that date the Westmorland Lock Hospital has been the only institution of its kind in Ireland, and I believe that the majority of prostitutes in Ireland, sooner or later, find shelter within its wards

In looking through our hospital registers, especially the earlier ones, I found a certain number of patients who, apparently, were not suffering from venereal disease. It seemed to have been the custom to send cases of scabies and pediculosis to the Lock Hospital, and until quite recently we felt bound to admit such cases, simply because they had always been considered suitable cases for the Lock Hospital. It was at the suggestion of my colleague, Dr. Henry Moore, that we refused to admit these cases, and we now confine our admissions to patients suffering from venereal disease. I have excluded all nonvenereal cases from the list of first admissions in the following charts.

In Chart I. you will see two curves—the upper one represents the total number of admissions and re-admisions as shown by the register of each year since 1860; the lower curve shows the number of "first" admission patients for these years. Both curves show a very considerable fall from the middle sixties down to recent years. This decrease in number might be attributed to a corresponding diminution in the numbers of infected women. I do not think that this conclusion is justified, because there come into play other factors, three of which are of very great importance—the severity of the disease, the clearing out of disorderly houses in the city, and the type of woman afflicted with venereal disease.

As regards the first of these, I believe that fifty years ago the various venereal manifestations were of great severity and have gradually become milder. I have noticed this amongst the hospital patients even during the past ten years. A patient does not usually present herself for admission until she is suffering very considerable discomfort or finds herself unfit to continue her avocation. As long as she suffers comparatively little inconvenience either she remains untreated or, at least, visits one of the various dispensaries, probably at very irregular intervals. So with less acute symptoms there would be fewer seeking admission to the hospital.

Up to about the year 1899 most of the brothels were collected in a comparatively small area on the north side



of the city. In most of these houses there was some one in charge who insisted on a girl going into hospital as soon as she was known to be diseased; some of them, I believe, had their own medical attendant, who periodically inspected the inmates and ordered venereal cases into hospital. A good number of our admissions in past years were these patients who would not have come of their own accord. For several years these houses were being closed up, and their inmates scattered throughout the city and suburbs without the semblance of supervision. The curves, I think, show the effect of this on the numbers of admissions.

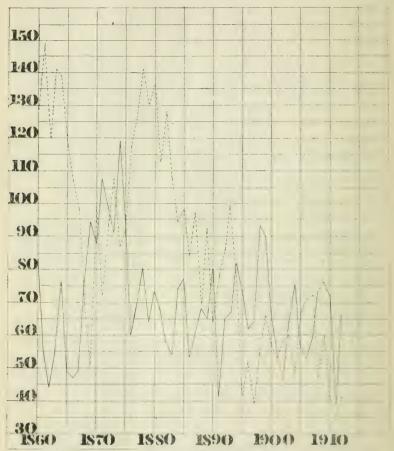
The type of woman suffering from venereal disease has altered considerably; the regular women of the town are tending to be replaced by those who follow some other occupation as well as that of prostitution. The latter, naturally, have a greater objection to applying for admission to a Lock Hospital than the former, and so seek treatment elsewhere. The effect of the Contagious Diseases Acts of 1866 and 1868, although applying only to Cork, Queenstown, and the Curragh, seems to have caused an increase in the admissions.

The upper curve, including as it does all classes of cases and re-admissions, is not of great importance, but is of some interest as a sort of rough estimate of the efficiency of treatment. In the old days, when cases of acute secondary syphilis were discharged "cured" in two or three weeks, it is not surprising that the re-admissions were very frequent and the upper curve unduly high as compared with the first admission curve. In the decade 1860-1870 the proportion is over 4.9 to 1; while in the ten years ending 1912 the proportion is 3.66 to 1; and in the current year, which does not end till March 31, the figures are 2.68 to 1.

You will notice a great fall in the year 1911; this, I believe, was due to a special factor with which I shall deal presently.

In Chart II. there are two curves, the one drawn

with a continuous line represents those first admission cases who suffered from syphilis, and the broken line non-syphilitic cases, suffering chiefly from gonorrhea.



There was sometimes considerable difficulty in placing the cases in their right class because the diagnosis was occasionally hard to decipher, and also at times quaint. Such enteries as "external gonorrhoa," and "gonorrhoal sore throat" were somewhat puzzling. Up to the year 1856 most of the entries for syphilis were of the tertiary stage, and very few secondary or primary, so that one is rather led to the conclusion that syphilis in

its early stages was often undiagnosed. After the passing of the Acts of 1866 and 1868 one notices a great increase in the number of syphilitic cases. This increase, which you see is continued for some years, is all the more remarkable because the Lock Hospitals for women were opened in 1869. That there was an increase of syphilis in the country is likely, but that there was also, during these years, more attention paid to the diagnosis of chancres and secondary syphilis is shown by the more careful noting of the characters of the former and the appearance of the latter in the hospital registers.

If you look at Chart II. you will see that the decrease in the number of first admissions in the year 1911 is nearly entirely due to the falling off in the number of syphilitic cases. In this year "salvarsan" came into general use, and was tried in most of the Dublin hospitals. As a result many cases of syphilis were treated in the general hospitals which, normally, would have been sent to the Lock.

I have drawn up a table and a scale chart showing the birth places of our first admissions for the fifty years ending April 1, 1910. It will be seen that Dublin supplies more than half our patients, and the counties without large or garrison towns send us very few indeed.

I think it may be said that outside the larger towns there is very little venereal disease in Ireland.

The total number of our "first" admissions during the twenty years ending 1912 was 2,468. Of these, 518 were sent to a Magdalen Asylum, to their people, to situations, or were otherwise given a chance to reform. About one half, I am afraid, returned to the "streets." so that in the twenty years about 2,209 girls came upon the town, or a yearly average of 110.45. I would estimate that the average time for a prostitute on the town is about nine years. If we multiply our yearly average of "recruits" by nine we get 994. So I think that the number of our first admissions might be taken to represent a floating population of prostitutes of about 1,000. This figure was

116 Admissions to the Westmorland Lock Hospital.

somewhat higher than I expected, but still I believe it is as accurate as is possible at the present time.

BIRTH PLACE OF "FIRST" ADMISSION PATIENTS FROM 1860 TO 1910.

Counties	1860-70	1870-80	1880-90	1890-1900	1900-10	Totals
Antrim .	29	45	28	38	40	180
Armagh .	6	9	7	9	2	33
Cavan .	12	17	13	14	8	64
Donegal .	0	4	0	1	4	9
Fermanagh .	11	8	4	5	3	31
Londonderry	7	14	1	6	2	30
Monaghan .	6	5	4	4	1	20
Tyrone .	15	6	2	3	8	34
Down .	9	15	12	7	9	52
Clare .	4	6	2	4	5	21
Cork .	27	54	29	25	22	157
Kerry .	8	6	4	5	1	24
Limerick .	32	21	14	14	19	100
Tipperary .	27	24	21	18	14	104
Waterford .	8	17	10	8	5	48
Carlow .	29	25	35	21	25	135
Dublin .	877	1,111	981	798	706	4,473
Kildare .	91	66	58	54	27	296
Kilkenny .	36	24	19	15	6	100
King's .	22	18	16	17	11	84
Longford .	10	12	10	4	13	49
Louth .	17	25	16	21	18	97
Meath .	81	46	42	28	27	224
Queen's .	32	20	23	13	20	108
Westmeath .	43	19	27	17	17	123
Wexford .	37	20	24	27	19	127
Wicklow .	110	72	78	45	48	353
Galway .	25	33	21	17	18	114
Leitrim .	3	1	3	2	2	11
Mayo .	4 5	8 5	5 7	8	3	28
Roscommon .	6	6		7	4	28
Sligo .	.,	6)	5	1	3	21
Places outside Ireland .	119	171	147	119	92	648
					Total .	7.000
					Total .	7,926

Since making these calculations I found that two statements in Dr. John Morgan's book, written in 1872, which are of interest: "In Dublin . . . about 1,000 women are known to the police as living an irregular life"; and further on we find: "About every eight or ten years a generation of these unfortunates will have passed away."

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It would seem that in the past forty years these matters have not altered very much.

I should like to express my indebtedness and gratitude to Dr. D. Harrington, the resident medical officer at the Westmorland Lock Hospital, for the many hours he spent in helping me to collect these statistics.

SCARLET FEVER IN THE AGED.

In the Edinburgh Medical Journal, December, 1913. Dr. Claude B. Ker, Lecturer on Infectious Diseases in the University of Edinburgh, reports the case of a man, aged seventy-four years, who was admitted to the Edinburgh City Hospital (of which Dr. Ker is Medical Superintendent) on June 16th, 1913, for "observation" for scarlet fever. The patient had been seen previously by Dr. Robert Robertson and by Dr. Maxwell Williamson, the Medical Officer of Health for Edinburgh. It was stated that he had been "out of sorts" since June 12th, that vomiting and shivering occurred on the 14th, and that a rash was noticed on the morning of admission The body was covered with a brilliant scarlatiniform eruption. The limbs were also covered with the rash, which was more pronounced on the flexor surfaces. It was found that the man had taken no drugs, had received no enema, and had not previously suffered from erythema. No direct exposure to scarlet fever could be traced, but at the time of his admission cases were being admitted to hospital from the street in which he lived. The attack presented the features of scarlatina, and on June 26th desquamation of a characteristic kind was visible all over the trunk and arms. The patient was discharged well after a hospital detention of forty-three days. There seems little reason to doubt the diagnosis. Particularly characteristic were the rash, the changes in the tongue, the complications of otitis and arthritis which occurred, and the regular sequence of desquamation. Dr. Ker has been at the pains to collect statistics on the subject, and arrives at a grand total of 263,986 cases treated in modern fever hospitals, of which only twenty occurred in persons above the age of sixty years, while of these only two are definitely stated to be seventy years and upwards, The case now reported, therefore, has some claim to be considered a rare one.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

RECENT WORKS ON MENTAL DISEASES.

- 1. Mental Diseases. By R. H. Cole, M.D. (Lond.), M.R.C.P. University of London Press; Hodder & Stoughton. 1913. Demy 8vo. Pp. x + 343.
- 2. A Clinical Manual of Mental Diseases. By Francis X. Dercum, M.D., Ph.D.; Professor of Nervous and Mental Diseases, Jefferson Medical College, Philadelphia; Consulting Neurologist to the Philadelphia General Hospital; President of the Psychiatric Society, Ex-President of the American Neurological Association, &c. Philadelphia and London: W. B. Saunders Company. 1913. Pp. 425.
- 1. In "Mental Diseases" the author (Dr. R. H. Cole) has endeavoured to delineate the salient features of our present knowledge of psychiatry in as concise a manner as possible. The result is a work of great merit, and is a valuable addition to those text-books which can, with confidence, be recommended to students of mental disease and junior practitioners who intend to devote themselves to this branch of Medicine.

Throughout the volume, which is written in a style calculated to hold the reader's attention, the author proves himself to be a keen observer of the insane, and much experienced in their care and treatment.

Amongst many excellent chapters it is difficult to pick out any for special praise, without, perhaps, doing an injustice to some of the others; but we fancy that those on the diagnosis of insanity and general treatment will be found particularly helpful. The latter contains a brief

account of psycho-analysis, which, owing to the studies of Freud, now occupies such a prominent position.

There is also included an account of the Mental Deficiency Act, which will come into operation on the 1st of April, 1914, but which, unfortunately, our legislators did not see fit to extend to Ireland, where it is so much needed.

The book, considering its size, contains a surprising amount of valuable information, and compares favourably—in this and other respects—with not a few works on a more ambitious scale.

It is freely illustrated, and contains many excellent photographs. We expect to see it run into several editions.

2. This handbook of mental diseases is compiled from a course of lectures delivered by the author at the Jefferson Medical College, and has been prepared from a purely practical and clinical point of view. It is a book for students and general practitioners, and contains nothing but a general résumé of accepted psychological medical knowledge. The book is a pleasing American surprise, as it is both temperate in its estimation of the value of treatment, and the conclusions of the author have evidently been those of a physician long and intimately acquainted with the practical treatment of the insane and allied neuroses. The treatment of early and borderland cases is clearly set forth, and the great difficulties met with in treating such cases as mild or hypomelancholic states, states of paranoia with little apparent mental disturbance, are admirably set forth. We have often wondered why a wider knowledge of the dangers to the public entailed by the nonrecognition of paranoid states was not more clearly set forth in treatises on mental disease. Society protects itself by the adoption of sanitary laws affecting infectious and contagious diseases by enforcing compulsory notification, quarantine, &c., but has hitherto left untouched the paranoid insane until such times as his conduct has resulted in numberless tragedies and untold injury to feeble-minded persons whose minds have been affected by the paranoid's masterful personality and insane insistiveness.

The author's stand against the teachings of Freud and Bleuler is very decided, and in accordance with the sense

of more experienced psychologists.

"Buried concepts" are unearthed by practical asylum workers every day by gaining the confidence of their patients, and one's heart goes wholly out to the author when he says that Freud and his school have become obsessed by their one idea of sexual causation for the "buried concepts," and admirably puts their processes of prolonged treatment in contrast with the rapid improvement which takes place in insane and neurasthenic states by more ordinary and rational methods which are daily in practice in our mental hospitals. The work is ably put together, and the entities of mental disease are clearly and concisely placed before the reader both as regards their symptoms and cause. The treatment of mental disease occupies a small portion of the book, but the author has only mentioned the drugs and medicinal procedures which are the safest and most generally productive of good, and has but thereby enhanced the value of the book as a thoroughly practical and useful help to the general practitioner when called upon to treat cases of mental disease and minor psychical disturbances.

R. R. L.

The Medical Who's Who, 1914. London: The London & Counties Press Association, Ltd., 39 King Street. Covent Garden, W.C. Cr. 8vo. Pp. lxxii + 812.

THE fact that the present issue of this publication contains 219 pages more than its predecessor is a sufficient answer to its critics. The entries of the names of members of the Medical Profession are far in excess of those contained in the edition of 1913. They occupy 763 pages compared with 593 pages—a mark of appreciation on the part of the Profession which must be very gratifying to the editor and the publishers.

We still miss from the list of entries the names of many leaders of medicine and surgery in Ireland. In matters of this kind our professional brethren are essentially conservative—or does some element of carelessness enter into their aloofness? However, as time goes on, this publication is sure to win its way into favour in Ireland as in other divisions of the United Kingdom.

A new feature in the present edition is an alphabetical list of towns with the names of resident practitioners whose names appear in the volume. Every care has been taken in the compilation of this list, but the publishers state that they cannot guarantee its correctness, and will be glad to have their attention called to any error.

It is not the publishers' fault if the book is still incomplete as a work of reference. A form with spaces for particulars was sent to every practitioner on the Medical Register in Great Britain and Ireland, and all returns received up to the time of going to press are included. It must be clearly understood that "The Medical Who's Who" does not contain a selected list of medical practitioners. The omissions are not editorial.

In future the volume will be published in December of each year. We wish the undertaking every success.

On the Hygienic Management of Labour in the Tropics. An Essay by P. N. Gerrard, B.A., B.Ch., B.A.O., M.D., Dublin University; D.T.M.H. Cambridge University; L.M. and Special Certificate, Rotunda Hospital, Dublin; Diploma (with Distinction) London School of Tropical Medicine; Medical Officer Kuala Kangsar District, F.M.S. Civil Service; late Health Officer, Selangor. Singapore; The Methodist Publishing House. 1913. Pp. 80. With Plans.

This work is not concerned with parturition, as one might infer from its title, but with the wider world of physical labour.

The quest for rubber in Ceylon and the Straits Settlements, and the rapid development of jungle country consequent on the growth of the new industry, has brought about a condition of things in regard to the management of coolie labour which is causing grave anxiety to adminis-

trators and to those responsible for the health of the districts involved.

Dr. Gerrard reasons rightly that it is to the interest both of the capitalist and the coolie that the facts of the situation should be faced.

He points out firstly that all the wealth in the world will not profit a man broken down in health; secondly, that a dead or broken down coolie is of no practical use on any estate; and thirdly, that unless due precautions are taken both these lamentable eventualities are at least liable to occur. Again, he utters a wise warning, which we in the home countries would do well to heed-" Any labour badly housed on insanitary sites, with questionable water and food supplies and insufficient medical attendance, must break down. Such is the case from the economic standpoint; but the other side of the picture is, perhaps, more serious although far off as regards tropical labour namely, when the labour forces begin to realise that they are not being treated under reasonable hygienic conditions—then the troubles will commence in earnest. The secret of the prevention of labour troubles will. I am convinced, be found to lie in the provision of healthy houses and surroundings, health-giving sports, aids to personal cleanliness, and good and cheap foodstuffs." We could wish that these words were read by some speculators in the rubber market and by the company directors at home; but they have a direct bearing on the condition of labour and the present unrest in these countries also.

The book deals with the prevention of tropical diseases and epidemics, the selection of building sites, water supplies, hospital accommodation and management, as these affect the estates in a jungle country.

The Labour Code (1912) of the Federated Malay States is appended to the Essay. We can commend the book to those interested in tropical work, medical and lay, for there is much in it which must awaken a sense of the dangers of haphazard sanitation in such primeval conditions as exist in the districts now being brought under rubber cultivation.

Dr. Gerrard is to be congratulated on this outspoken and manly Essay.

Applied Pathology: being a Guide to the Application of Modern Pathological Methods to Diagnosis and Treatment. By Julius M. Bernstein, M.B., D.P.H. (Camb.), M.R.C.P.; Assistant Physician to the West London Hospital, &c. London: University of London Press; Henry Frowde; and Hodder & Stoughton. 1913. Demy 8vo. Pp. xvi + 395. With 5 Coloured Plates and 46 Figures.

In these days, when it is becoming more and more the practice to rely on the clinical pathologist for much help in diagnosis, there is room for a book dealing, not with his methods, but with his results. This, which is "in fact intended for the busy practitioner and senior student who wish to obtain a survey of the application of clinical research," combines a discussion of the results obtained by the pathologist, with information as to the methods of treatment which follow from his investigations.

Of the twenty-nine chapters, five are given to blood, five to urine, three to bacterio-therapy, and others to serumtherapy, serology, cytology, disorders of digestion, faces, sputum, pleural fluid, complement fixation, tuberculins, chemotherapy, &c. The coloured plates of blood are good, and the dark-ground photographs of spirochata, &c., are from Pathé Frères' well-known cinematograph films. The other illustrations are mostly original drawings or photographs and charts.

In a handbook which, on the whole, is helpful and accurate, it may be allowable to point out one or two apparently incorrect statements. Thus, the author states that typhoid and paratyphoid bacilli cannot be isolated from the stools, but that in the case of typhoid it is necessary, in order to make a diagnosis, to wait for the appearance of agglutinins. On the contrary, in both diseases the causative bacillus can usually be isolated, and also early in the disease can nearly always be obtained in pure culture from the blood. Again, he says that actinomyces

cannot be cultivated, but that it can be inoculated into guinea pigs. The common actinomyces in this country can undoubtedly be grown, but is apparently non-pathogenic for animals. There are one or two misprints, such as "chondromata" for "condylomata," but mostly they are of no importance.

The author is wisely emphatic as to the inadvisableness of indiscriminate and insufficiently supervised administration of tuberculin. He gives full instructions for its use, and points out the necessity of complete rest and other helps in the treatment of tuberculosis. He uses an intense method in administering the vaccine, in which the dose is always kept close to, but just below, the reaction point. It may be pointed out, however, that many vaccine-therapists in this country prefer to use much smaller doses.

That the book is founded on what was originally a verbatim report of lectures, accounts for some of the English, such as speaking of serum being agglutinated by bacteria; but the book as a whole is clear, readable, and easily understood.

Doctor Steeven's Hospital: a Calendar of Anniversaries.

Compiled by T. Percy C. Kirkpatrick, M.D.,
Physician to the Hospital. Dublin: Hanna & Neale.

1913. Pp. 29.

This is a novel kind of Calendar, the compilation of which, while it did not give much scope to its author's undoubted literary talent, testifies to Dr. Kirkpatrick's industry and love for his hospital. In a neatly worded "Foreword," he reminds us that "Dr. Steevens' Hospital, though not the oldest, is the first of our modern hospitals that was built in Dublin. Founded in the beginning of the eighteenth century by the munificence of a Dublin Physician, Dr. Richard Steevens, and his sister, Madame Grissel Steevens, its doors, during the past one hundred and eighty years, have never been closed against the sick and needy."

Many of the entries in the Calendar of Anniversaries possess a very general interest; others, perhaps, will appeal only to those who are intimately connected with Steevens' Hospital. As a rule, the entries have been judiciously chosen, but a few of them might well have been omitted—such as "Nurse —— dismissed the hospital for misconduct;" "Night Nurse —— reported for neglect of duty;" "Mr. Abraham Colles, resident surgeon, reported the nurses in the Constabulary ward for selling drink to the patients."

Under the heading December we read—

"14. 1710. Dr. Richard Steevens signed his will.

15. 1710. Dr. Richard Steevens died."

NEW EDITIONS OF STANDARD MEDICAL DICTIONARIES.

- 1. The Illustrated Medical Dictionary. By W. A. Newman Dorland, A.M., M.D.; Member of Committee on Nomenclature and Classification of Diseases of the American Medical Association; Professor of Obstetrics, Loyola University, Chicago; Fellow of American Academy of Medicine. Seventh Edition, revised and enlarged. London and Philadelphia; W. B. Saunders Company. 1913. Large 8vo. Pp. 1,107.
- 2. The Pocket Medical Dictionary. Edited by W. A. NEWMAN DORLAND, A.M., M.D. Eighth Edition, revised and enlarged. London and Philadelphia: W. B. Saunders Company. 1913. Pp. 677.
- 1. LITTLE more than two years have passed since the Sixth Edition of Dorland's "Illustrated Medical Dictionary" was published—" revised, entirely reset, printed and copyrighted, August, 1911." That edition was reprinted in January, 1912, and now the seventh edition appears—" revised, reprinted and copyrighted, September, 1913." This fact bears eloquent, if silent, testimony to the popularity of a work which reflects the greatest credit on the Editor and his assistants.

The terminology of the medical sciences is expanding by leaps and bounds, and the classical tongues of Greece and the Roman Empire have been laid under heavy contribution in coining descriptive terms. We suppose it is the genius of the English language which enables it to assimilate such frightful hybrids as "serology," "suprarenaden," "suplagotoxin," and hosts of such like words. Mention of serology leads us to criticise Dr. Dorland's plural form "sera" (page 844). He quite correctly states that the word is derived from the Latin, in which language "serum" means "whey." In that sense the word is used by Vergil, Tibullus, and Ovid-but always in the singular. Another meaning, more akin to the modern use of the word, is met with in the "Carmina" of the poet Catullus—but he also employs the singular. Pliny and Columella, a writer on husbandry who flourished A.D. 50, also use the word, but we have not had an opportunity of referring to their works. Clearly "serum" in its modern sense is to all intents and purposes an English word and its plural is "serums."

Under "albumen" we read—"1. The white of eggs. 2. Old name for albumin, 3. The nutritive matter stored within a vegetable seed." We are inclined to keep to the old spelling, if it were only to avoid confusion with the glucosides, which have the English termination in.

These are, however, minor points which do not detract seriously from the value of the book as a very useful medical encyclopadia. The Editor states that more than 5,000 new terms have been defined in the present edition. which contains in consequence 121 pages more than its predecessor.

2. As to the "Pocket Medical Dictionary," which has now reached an eighth edition, we have nothing but praise. Several hundred new terms in medicine, surgery, and the ancillary sciences have been included in this neat little volume, which may be carried in the coat pocket or in the doctor's bag, when the more pretentious volume must be left at home in the library or the consulting-room. Appended to the dictionary are a very full table of doses—in both apothecaries' and the metric systems—and a veterinary dose table. The posology is based on the U. S. Pharmacopæia.

Treatment by Hypnotism and Suggestion, or Psycho-Therapeutics. By C. Lloyd Tuckey, M.D. Aberd.; First President of the Psycho-Medical Society. Sixth Edition, Revised and Enlarged. With a Foreword by Sir Francis R. Cruise; and a Chapter on Professor Freud's Theories and Treatment by Psycho-Analysis by Dr. Constance Long. London: Baillière, Tindall & Cox. 1913. Demy 8vo. Pp. xxviii + 431.

DR. LLOYD TUCKEY'S book is so well known as one of the standard English works on treatment by hypnotism that it is unnecessary to do more than extend a welcome to this—the sixth—edition. The first edition appeared in 1889, and we venture to think that the author must be well pleased in the change that has taken place in the professional attitude towards the subject since that date, a change towards which he has himself to a considerable extent contributed.

The author's own attitude towards hypnotism as a therapeutic agent seems to us essentially sound. He does not claim cures in organic disease, though he points out that the abnormal psychical factors which are present in almost all cases of organic disease may be removed; in functional disease, however, lies the great field for hypnotism, but even here the operator must be prepared for failures, and, as a rule, patience and perseverance on the part of the patient is essential.

Numerous common fallacies in relation to the subject are dealt with, and a strong protest is urged against the exhibition in public, as a means of entertainment, of persons who, while in a state of hypnotic somnambulism, may be induced to perform almost any action that the hypnotiser suggests. It is only by the repeated hypnotism of persons by irresponsible unqualified operators that harm is likely to accrue, while, on the other hand, no

harmful results have been known to arise from the legitimate use of hypnotism as a means of cure.

In reading over the book for the first time one is rather struck by its absence of system, but a little thought shows that this is essential to the subject dealt with. The only way of showing in what directions hypnotism may be advantageously used consists in quoting cases in which the method has been tried. A considerable portion of the book consists of records of cases with comments and deductions therefrom. The narrative as a whole is interesting, is certainly instructive, and is worth reading even by those who have no intention of themselves practising hypnotism. The writer indeed largely addresses himself to these, pointing out that in connection with many branches of therapeutics it is the part of the profession to know when to make use of any special branch and what may be expected from it, rather than to personally apply it.

Therapeutics of the Gastro-intestinal Tract. By Dr. Carl Wegele. Adapted and edited by Maurice H. Gross, M.D., and J. W. Held, M.D. London: Rebman, Ltd. [No date.] Pp. xvi + 329.

This is primarily a translation of Dr. Carl Wegele's "Therapie der Magen- und Darm-Erkrankungen," but with considerable additions to the original work. Among the additions we find various points of diagnostic importance, including the use of x-rays, new chapters on the cesophagus and pancreas, as well as on the use of the "duodenal tube." The bulk of the new matter is founded upon original work by the translators, and of this we were most interested in the comparatively new subject of diagnosis by the duodenal tube. The technique is wonderfully simple, and the information to be gained by its use quite surprising. Thus pyloric stenosis, duodenal ulcer, duodenal stasis, and even gall-stones may be diagnosticated. Therapeutically, it can be employed for lavage or insufflation of the small intestine with oxygen.

It is not possible even to refer to the many other good points, because a complete compendium of gastro-intestinal affections has been compressed into a comparatively small bulk. This has been effected by unusual condensation of style. The impression conveyed is that of reading lecture notes rather than a text-book, and we must say the departure from usual custom is rather refreshing.

We are also pleased to find that the treatment of these diseases has not been handed over completely to the surgeon—in fact, the work is entirely from the point of view of the physician, and surgical procedures find no place. The omission is not to be regretted—there is a plentiful supply elsewhere. Main stress is accordingly laid on dietetic, physical, and hygienic measures: drugs occupy a secondary place. In view of the importance of prolonged improper feeding in the causation of diverse types of disease, we are glad to see much attention paid to the subject of diet.

We feel sure that the book will be helpful, not only to the general practitioner—the bulk of whose work probably consists in the treatment of such diseases—but also to the specialist.

Sanatoria for the Tuberculous, including a Description of many Existing Institutions and of Sanatorium Treatment in Pulmonary Tuberculosis. By F. RUFENACHT WALTERS, M.D., M.R.C.P.; Fellow of the Royal College of Surgeons; Joint Tuberculosis Officer to the Surrey County Council; late Physician to the Mount Vernon Hospital for Consumption and Diseases of the Chest, and to the Crooksbury Sanatorium. Fourth Edition, entirely rewritten. London: George Allen & Co. 1913. Demy 8vo. Pp. xiii + 445.

Six and a half pages of the 145 which compose this volume are allotted to Ireland and its sanatoriums (as we prefer to write the word): this is certainly not a liberal allowance of space, more particularly as England's share is 63 pages, Scotland's 17 pages, while Wales has $3\frac{1}{3}$ pages. But the

learned author is not to blame for this. The fact is that the Emerald Isle in this matter, as in many other respects, lags behind the other parts of the United Kingdom. Most of the existing institutions are grouped round the large cities of Dublin and Belfast. The Cork County and City Sanatorium, Heatherside, Streamhill, Doneraile, was the first county sanatorium opened in Ireland. A small cottage sanatorium was opened in the County Clare, having been erected at the cost of Lady Inchiquin and other subscribers. The Queen's County Sanatorium, Maryborough, was founded chiefly through the exertions of Lady Coote. It was unfortunately burnt down in November, 1912. Peamount Sanatorium, County Dublin, is merely mentioned; in its present extended proportions it merits a much fuller description, for it has really become a very typical and creditable institution of its kind.

Dr. Walters deserves great credit for the industry with which he has studied the subject of the sanatorium treatment of tuberculosis, and for the labour he has spent on acquiring information relative to institutions designed for that purpose in nearly all parts of the civilised world.

The work is divided into two parts—the first, general; the second descriptive. In a brief introductory section the scope of sanatorium treatment is considered. Section II.. consisting of four short chapters, deals with the questions of climates for the tuberculous and of sites for sanatoriums. He lays stress on the necessity of shelter from strong winds and mentions Dr. Ransome's name in this connection; but the important researches of Dr. William Gordon, of Exeter, on this subject are not alluded to. Section III. treats of the sanatorium buildings, their construction, equipment, size, staff and management, tion IV., in eleven short chapters, discusses treatment and its results. In Chapter XV., on medicinal treatment, the author damns with faint praise some modern remedies which have created a stir in medical and lay circles in Dublin within the past two years or so. Thus he writes (page 75):—"Some other general remedies have been credited with the power of reducing tuberculous fever by

attacking the cause. Chief among these are iodoform," &c. "Iodoform," he goes on to state, "is strongly recommended by Dewar, who injects it intravenously dissolved in ether." Among general remedies for afebrile cases, "dioradin was introduced by Professor Szendeffy. There is much difference of opinion as to its value "(page 78).

In subsequent chapters in Section IV. of Part I. information is given respecting tuberculins, vaccines and serums, the selection and classification of patients, "routine in a sanatorium," and the results of treatment, or, rather, how such results should be arrived at and tabulated.

Part II. constitutes by far the largest portion of the volume, running as it does from page 109 to page 432. In it the author describes the arrangements adopted in various countries and in two hemispheres for dealing with tuberculosis. The countries are given in alphabetical order, beginning with America (United States) and ending with Switzerland. The descriptive letterpress is clear, but uneven—some sanatoriums are dismissed in a few words or a few sentences; others are very fully described. This was, of course, to a large extent unavoidable. The text is further elucidated by 38 illustrations and plans on glazed paper and inserted as plates.

Probably in no other part of the world is there anything like the accommodation for cases of pulmonary tuberculosis which now exists in the United States of America. More than 26,000 beds appear to be available for such cases in sanatoriums and similar institutions, the population being 84,000,000. The more advanced cases are treated in tuberculosis pavilions and wards of general hospitals and in special tuberculosis hospitals. Over 500 Antituberculosis Associations are scattered over the States, and most of the towns in the Northern States have tuberculosis dispensaries, while many have classes for instruction in general hygiene. The National Association for the Study and Prevention of Tuberculosis in the United States spent during 1911 over £2,360,000 in the erection

of new sanatoriums and hospitals, and more than half a million sterling in other ways. Many tuberculosis camps have been started, and there has been an enormous increase in the number of open-air schools during the last two or three years. They are intended solely for tuberculous children.

The arrangements for combating tuberculosis in some of the Southern States appear to be inadequate.

In a very useful series of tables, information is given as to the name and locality of the several tuberculosis institutions, the date at which each was opened, the terms per week in the coinage of the various countries, the names of the medical officers, the nature of the cases admitted, the sex of the patients, the stage of the disease, and the number of beds available. These tables immensely enhance the value of the book as a work of reference. As such it should be in the hands of all Medical Officers of Health, Sanitary Authorities, and the many others who are engaged in the crusade against tuberculosis.

RECENT WORKS ON DISEASES OF THE SKIN.

- Diseases of the Skin. By David Walsh, M.D. London: Baillière, Tindall & Cox. 1913. Demy 8vo. Pp. xvi + 298.
- Skin Diseases in General Practice. By H. Davis, M.B.,
 B.Ch., B.A. Oxon. London: Henry Frowde and Hodder
 Stoughton. 1913. Demy 8vo. Pp. xii + 340.
- 1. In anticipation of an obvious criticism the author makes the familiar apology that, in his opinion, there is still room for a simple introductory handbook of dermatology. Be this as it may it is only fair to say that the descriptions of the individual diseases are terse and practical, but they do not call for any special comment.

Two points upon which Dr. Walsh lays stress are these:—(a) He believes that various skin eruptions may arise from irritation caused by excretion of sundry irritants; (b) he holds that there is a close connection between many skin affections and disorders of the vascular system.

The evidence adduced in favour of this contention seems to us far from convincing.

An important practical suggestion is his recommendations of "Joha," a semi-solid preparation of Salvarsan. It is ready for use, and can be injected deeply into the flank. The author has employed it in a number of cases, and has found no inconvenience in allowing a patient to go home directly after receiving an injection.

The Appendix contains a lucid and illustrated description of the Wassermann reaction drawn up by

Dr. Harry Campbell.

2. Dr. Davis' book is on a more extended scale than Dr. Walsh's, is sound and practical in its execution, and is provided with some good illustrations of the more common diseases.

The author had flattered himself that he was first in the field in attempting to describe the ordinary run of skin diseases from a topographical rather than an ætiological standpoint. However, he discovered that Sabouraud had anticipated him in this idea by the publication in 1905 of his full and excellent Manual of Regional and Topographical Dermatology.

Pathology is only lightly touched upon by Dr. Davis, and so more space is allotted to treatment, which is

expounded on sensible and judicious lines.

For ringworm of the head a simple treatment is advocated, which is, in the author's opinion, the most satisfactory and rapid plan. It consists in vigorously rubbing into the head every morning an ointment made up of equal parts of common salt and vaselin.

For favus the only successful treatment is by means of

x-rays.

An occasional touch of humour entivens the pages. Thus, in speaking of spa treatment such as is carried out, say, at Harrogate or La Bourboule:—

"These places should be recommended only to wealthy patients. The benefit which can be guaranteed from the pilgrimage thither is insufficient to justify serious financial sacrifice on the part of comparatively impecunious patients."

Or, again, in alluding to the ætiology of acne rosacea, we learn that "in other cases the varied vicissitudes of the female pelvis seem be be a cause."

The concluding chapter of the book gives a useful summary of Some Modern Methods of Treatment—e.g., electrolysis, ionisation, cauterisation, x-rays and high frequency currents.

Radium. By Louis Wickham, M.V.O., and Paul Legrais. Translated by A. and A. G. Bateman, M.B., C.M. With Fifty-three Illustrations. London: Adlard & Son-1913. Pp. 111.

It is a matter for deep regret that one of the authors of this book, Dr. Louis Wiekham, has been prematurely cut off from a life of activity and usefulness. From the beginning of his career he devoted himself to the study of dermatology, and had achieved a wide reputation. For the past eight years he was an ardent student of the therapeutic applications of radium, and in 1896 he founded a Biological Laboratory of Radium, which has already done important work, and has attracted many foreigners to its clinic.

The present volume, although small in compass, covers a good deal of interesting ground, and must command the attention of all who are concerned with radium therapy.

It deals especially with the applications of radium to the treatment of cancer, angiomata, keloids, local tuberculosis, and some other affections.

Many instructive photographs of cases illustrate the text, and the general conclusion appears that radium is a most valuable assistant to surgery, and is bound to hold its place in the future.

It is a pity that the translation is disfigured by inelegant English and by many careless and annoying misprints—e.g., Sir J. J. Thompson, invisable, tineture of iodide, tracheoma, &c.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Walter G. Smith, M.D., F.R.C.P.I. General Secretary—J. A. Scott, M.D., F.R.C.S.I.

SECTION OF SURGERY.

President—R. D. Purefoy, M.D., F.R.C.S.I. Sectional Secretary—C. A. Ball, M.D., F.R.C.S.I.

Friday, November 28, 1913.

MR. L. G. GUNN in the Chair.

A Case of Paget's Disease of the Nipple.

Mr. R. C. B. Maunsell and Dr. Joseph T. Wigham read a paper on the above subject. Paget's original description was quoted, then an accurate clinical and microscopical description of the case was read. The communication was profusely illustrated with original coloured drawings and lantern slides of the clinical and microscopical appearances.

THE CHAIRMAN thanked Mr. Maunsell and Dr. Wigham for bringing forward the case. The rarity of the disease made the subject of greater interest, although more difficult to discuss. He invited remarks from the surgical and pathological standpoint.

Mr. A. Blayney said the only point open to criticism

was that Mr. Maunsell regarded the case as of the nature of rodent ulcer. From this opinion he dissented. Another point of interest was that all cases observed terminated in cancer of the breast, and this also was contrary to the theory of rodent ulcer. It was pointed out that in most cases of rodent ulcer no enlargement of glands was to be found in the neighbourhood. Although he had an open mind on the subject he was inclined to the view that it was a case of malignant growth of the skin which subsequently spread to the breast.

Dr. H. Stokes inquired how far the disease extended. Was it just confined to the breast?

Mr. Maunsell, in replying to the remarks, said that before, at, and subsequent to operation a search was made for glands, but none were found. He directed attention to the statement made in his paper, i.e., that it was a sort or kind of rodent ulcer. In his and Paget's description induration was not mentioned. The reason for his conclusion was that the appearance or process of cells was more like that seen in rodent ulcer than anything else.

DR. WIGHAM replying said that the case should be expressed rather as a skin cancer than as rodent ulcer. He had never seen a rodent ulcer which grew so freely. The cancer deep in the breast was certainly a difficulty, and whether the disease was one cancer or two, or whether the cancer had grown down into the breast, he could form no conclusion from the observation of this single case.

The Technique of Operation for Carcinoma of the Breast.

Mr. Pearson read a paper on this subject. He pointed out the principle on which modern radical operations for carcinoma are based, and laid down certain secondary principles of importance. These are:—

- (1). To avoid dissemination and wound-implantation of cancer cells during operative procedures.
 - (2). To minimise hæmorrhage and shock.
 - (3). To minimise the risks of infection.
- (4). To avoid unnecessary mutilation and loss of function. The scope of the radical operation in favourable cases of carcinoma of the breast, in the light of Handley's

investigations, was indicated, and the application of the secondary principles to the procedure was discussed. If regard to these be observed the author considers that there is only one best method of performing the operation.

The precise technique adopted was then explained with the aid of lantern slides, the special points on which em-

phasis was laid being:—

(1). That extensive removal of the fascial tissues with their contained lymphatics was the most important safeguard against recurrence.

(2). That the operation, even in the making of the cutaneous incisions, should be regarded as a two-stage procedure—an axillary portion which should be first carried

out, and secondly an abdomino-thoracic portion.

(3). The use of the deep fascia over the clavicular fibres of the pectoralis major (which fibres may safely be retained in favourable cases) as a guide to the separation of the clavicular from the sternal divisions of the muscle.

(4). The use of clamps on the pectoral muscles before division both to act as detractors and to prevent possible

dissemination.

- (5). The systematic exposure and securing of the blood-vessels in such a way that the operation is practically a bloodless one.
- (6). The necessity for additional drainage, besides the ordinary drain in the axilla, in certain cases.
- (7). The reconstitution of the axillary vault as the greatest safeguard against subsequent loss of function.
 - (8). The importance of early movements of the arm.

THE CHAIRMAN was in agreement with the greater part of the paper. He emphasised the point that success in curing cancer of the breast depended more on early diagnosis than on the technique of the operation, and considered that if the disease had extended at all far the chances of success were not good. He did not agree that the early diagnosis of the disease was not an easy matter.

Mr. Pringle said that the procedure mentioned in the paper was the same as he had been carrying out for some years. His experience, however, did not coincide with that of the writer regarding ordinary cases of cancer. He considered no operation radical where one jumped about from one part to the other. A thing which impressed him

with regard to this operation was the importance of keeping the upper ends of the incision well out of the axilla on account of the difficulty of properly sterilising the axillary fossa.

Mr. Keegan expressed his admiration of the excellent way in which the technique was explained. He recalled a case of his which was met with in a very late stage, the axilla not only being involved but there was also a fungating growth in the skin. In this case the patient returned with a recurrence in the skin which x-rays failed to remedy, and the affected area had to be removed. It was preferable to have a recurrence in the skin than to risk the infection of the mediastinal glands, and he advocated the removal of the clavicular portion of the pectoralis major.

Mr. Stokes joined issue as to the removal of the pectoralis muscle. His experience was that there was no use in doing these enormous operations when the case did not come for operation early. He had only one patient alive four years after operation, and this he considered a case of mistaken diagnosis. He inquired how a large supply of saline solution such as that suggested by Mr. Pearson could be kept sterile.

MR. MAUNSELL said that his experience was that a large number of cases of cancer of the breast lived long lives after operation irrespective of whether they had glands in the axilla or not. He had one patient alive eight years after operation. He considered the breast a favourable situation provided the operation was done thoroughly. He suggested that Mr. Pearson was not radical enough, and that in every case the pectoral muscles should be removed entirely. He would also be in favour of removing more skin than was suggested in the paper. His method was to carry up the skin incision like a V the whole way in order to get away more skin up towards the deltoid region. He looked on the method spoken of as the ordinary one, and was not aware that there were any surgeons who took off the breast backwards. He admitted that the hamorrhage in these operations was very slight. It was always his practice to encourage the patient to move the arm from the first.

Mr. C. A. Ball said that a point which he considered of importance had been drawn attention to in the paper, and

that was the necessity for putting in more than one drainage tube. He had been in the habit of draining the axilla and also putting a tube in the lower end of the wound. He drew attention to the involvement in a large portion of these cases of the supra-clavicular glands, and would like to know if it was recommended that such should be removed. He recalled a case of his in which a patient of advanced years had a large mass in the breast which was removed four years ago, and she has since shown no evidence of cancer. He, therefore, recommended the local operation in some cases where an extensive one might, perhaps, lead to bad results.

Mr. Pearson, in reply, said he did not mean that the diagnosis of carcinoma of the breast was easy, but that carcinoma of the breast offered more facility for diagnosis in a curable stage than carcinoma in any other region. ordinary case should be one which is favourable to removal and should not have involvement of the axillary glands when it came to the surgeon. He would regard glands in the axilla as unfavourable, and in such cases would recommend the removal of these glands. He suggested that if there was any involvement of the supra-clavicular glands, radical operation was contra-indicated. In the favourable cases he thought the clavicular portion of the pectoralis muscle might be left. He suggested that the public should be better educated on this subject with a view to bringing about the earlier treatment of carcinoma of the breast. With regard to large quantities of saline solution in a sterile state, he said if it was kept in vessels which are covered he thought it remained sterile. He did not agree with the method of carrying the skin in a V up on the axilla in early cases. The old method of working upwards towards the axilla was of course largely given up, and he was not surprised to know that the method referred to in his paper was that adopted by Mr. Maunsell and Mr. Pringle.

SECTION OF MEDICINE.

President—J. F. O'CARROLL, M.D., F.R.C.P.I. Sectional Secretary—F. C. Purser, M.D., F.R.C.P.I.

Friday, December 5, 1913.

THE PRESIDENT in the Chair.

A Case of Raynaud's Disease.

Dr. Drury showed a man, aged 32, who had this disease. Patient had been in India. Two years ago he was engaged as a night porter. At the beginning of the present winter the disease began in his hands. When first seen four weeks ago his right hand was in a condition of local asphyxia and the other hand showed commencing gangrene, the whole hand being blue and intensely cold. He never permitted the patient to wash his hands fearing sepsis. There was no albumen or sugar in the urine, and he gave a negative Wassermann. The condition came on quite quickly, and its very acute condition was of interest. No pulse could be felt in the left wrist, and in the right it was scarcely perceptible. He was treated with alcohol and chloride of calcium, first five and then ten grain doses per diem. There was much pain at the beginning, and opium had to be administered at night. The patient was at work up to six weeks ago. No signs of cardiac disease could be discovered.

Unusual Sequelæ of Typhoid Fever.

Dr. A. R. Parsons showed a patient with enormous dilatation of the veins on the abdominal wall. The man had typhoid in 1893. The onset of very acute pain in the right iliac fossa had caused so much suspicion of perforation that laparotomy was performed. No perforation was found, and the patient made a comparatively uneventful recovery. Two years later the patient showed signs of obstruction in the two iliac veins, or perhaps in the inferior vena cava. No inconvenience was experienced by the patient.

Dr. R. Atkinson Stoney showed a patient, aged 41, in a very similar condition. When in South Africa in 1901 he had

enteric fever. Was in hospital for three months, in bed the whole time, had two relapses. No bleeding from the bowels at any time. In convalescent camp for one month. then during voyage home noticed swelling of both legs for the first time, most marked in the right leg, which is said to have been 51 inches larger than normal. No enlargement of veins of legs noticed at this time, but veins on front of abdomen were noticed to be enlarging. Was in a convalescent home in England for two months, and was then discharged from the army. Has since been in the Canadian Police. Veins in legs became enlarged while in that force in 1904; enlarged veins in thigh gave trouble when riding. Varicose ulcers first formed on legs in 1910, healed and broke down twice since then. At present there is a very large tortuous vein forming up on each side of the abdomen from below the middle of Poupart's ligament to the corresponding axilla, the blood flow is free in both directions; one valve not completely competent is situated just below the level of the nipple. There is another large tortuous vein forming to join either side of the middle line from the same origin to the front of the sternum. The femoral vein can be felt as a hard cord in each leg up to Poupart's ligament; the abdominal veins have become larger during the last nine months. The condition is probably due to occlusion of the iliac veins and inferior vena cava.

SIR JOHN MOORE related a case of his which resembled these cases, but the dilatation of the superficial abdominal veins was unilateral.

THE PRESIDENT and DRS. MOORHEAD and LAW discussed the condition. There was a general feeling that thrombosis of the femoral veins is a commoner sequel of typhoid than statistics lead one to believe.

Endocarditis Lenta.

Dr. Gillman Moorhead read a paper on this subject, and showed the organs from a patient who had succumbed to the disease. The condition had supervened on a chronic endocarditis. The aortic valves became infected after the mitral valves. The spleen was enlarged, and there was moderate nephritis. Streptococcus viridans had been culti-

vated during life from the blood, and recovered also postmortem from the valves.

The President thanked Dr. Moorhead for his contribution, as he considered it a distinct acquisition to know that this definite type of endocarditis had a definite coccus as its recognised cause. A point which came into his mind was that when a case came into hospital with an old cardiac lesion one was prone to assume that the patient was tired from the effects of his old disease, whereas he might have a new endocarditis.

SIR JOHN MOORE and DRS. NESEITT, CROFTON, and O'KELLY discussed the condition.

THE FOURTEENTH FRENCH CONGRESS OF MEDICINE.

"LE XIVème Congrès français de Medécine," organised by the Association of French-speaking Physicians, will take place in Brussels from Wednesday, September 30, to Saturday. October 3, 1914. inclusive. The Executive is constituted as follows:—President: Professor Henrijean: Vice-Presidents: Professors Bordet and Vandervelde: General Secretary: Professor René Verhoogen: Treasurer: Dr. Godart-Danhieux. The Honorary Committee includes the names of MM. Brachet (Brussels), J. Demoor (Brussels), Denys (Louvain), Dustin (Brussels), Eeman (Ghent), Firket (Liège), P. Héger (Brussels) Jacques (Brussels), Van Gehuchten (Louvain), Van Lair (Liège). The General Secretary's address is M. René Verhoogen, 22 Rue Joseph II., Brussels. The following questions will be discussed at the forthcoming Congress:--(1) Syphilis of the cardio-vascular system—readers of papers : MM. Bayet (Brussels), Etienne and Spillmann (Nancy), Vaquez and Laubry (Paris). (2) The Lipoïds in Pathology—readers of papers: MM. Bordet (Brussels), Chauffard, Guy Laroche and Grigaut (Paris), Linossier (Vichy), Zunz (Brussels). (3) The Therapeutic Value of Artificial Pneumothorax—readers of papers: MM. Burnand (Leysin). Derscheid and Geeraerd (Brussels), Dumarest (Hauteville), Küss (Angicourt). The following question will also be discussed:—Vaccinotherapy in general: Special Vaccinotherapy of Cancer and of Typhoid Fever.

SANITARY AND METEOROLOGICAL NOTES.

VITAL STATISTICS.

For four weeks ending Saturday, December 27, 1913.

IRELAND.

The average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended December 27, 1913, in the Dublin Registration Area and the twenty-six principal provincial Urban Districts of Ireland was 15.9 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1.199,180. The deaths registered in each of the four weeks of the period ending on Saturday, December 27, and during the whole of that period in certain of the districts, alphabetically arranged, correspond to the following annual rates per 1.000:—

		Week	ending		Average Rate
COUNTY BOROUGHS, &c.	Dec.	Dec. 13	Dec. 20	Dec. 27	for 4 weeks
27 Town Districts	16.0	17.7	18.9	15.9	17.1
Dublin Reg. Area	18.1	17.6	20.3	17.1	18.3
Dublin City	20.3	18.4	22.7	19.1	20.1
Belfast	15.4	18.0	18.6	19.8	17.9
Cork	16.3	21.1	23.1	10.9	17.8
Londonderry	17.8	8,9	11.4	11.4	12.4
Limerick	14.9	12.2	17.6	13.5	14.6
Waterford	11.4	9.5	34.2	11.4	16.6

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 27 districts during the week ended Saturday, December 27, 1913, were equal to an annual rate of 1.4 per 1,000. Among the 150 deaths from all causes in

Belfast were 6 from scarlet fever, one from measles, 7 from whooping-cough, and one from diarrhœa and enteritis of a child under 2 years. Included in the 5 deaths from all causes for Galway was one from enteric fever and one from whooping-cough. One of the 10 deaths from all causes for Limerick was from enteric fever. Among the 4 deaths from all causes for Newtownards was one from whooping-cough, and of the 3 deaths registered in Newry one was from scarlet fever. Of the 2 deaths for Armagh one was from measles.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin, as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area in 1913 was 403,000; that of the City being 308,187, Rathmines 38,769, Pembroke 29,942, Blackrock 9,161, and Kingstown 16,941.

In the Dublin Registration Area the births registered during the week ended December 27 amounted to 140—81 boys and 59 girls, and the deaths to 137—72 males and 65 females.

DEATHS.

The deaths registered, omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 17.1 per 1,000 of the population. During the fifty-two weeks ended Saturday, December 27, the death-rate averaged 20.1, and was 1.6 below the mean rate for the corresponding portions of the ten years, 1903–1912.

The total deaths registered, numbering 137, represent an annual rate of 17.7 per 1,000. The annual rate for the past fifty-two weeks was 21.5 per 1,000, and the average annual rate for the corresponding period of the past ten years was 22.8 per 1,000 of the mean population for all deaths registered.

The deaths included one death each from croup, measles, and whooping-cough, 2 deaths from diphtheria, 2 from influenza, and 5 deaths from diarrhœa and enteritis of children under 2 years. In each of the 3 preceding weeks deaths from whooping-cough had been 1, 0, and 1; deaths from diphtheria had been 1, 4, and 6; deaths from influenza had been 0, 0,

and 2; deaths from measles had been 1, 2, and 1; and from diarrhoa and enteritis of children under 2 years the deaths had been 5, 4, and 8.

Of 17 deaths from tuberculosis (all forms) 12 were attributed to pulmonary tuberculosis, 3 to tubercular meningitis, and 2 to disseminated tuberculosis. This number is exclusive of 2 deaths of persons admitted to hospital from localities outside the Area. In each of the 3 preceding weeks, deaths from all forms of tuberculosis had been 20, 21, and 30.

There were 7 deaths from cancer, or malignant disease.

Of 5 deaths from convulsions, 2 were those of infants under one year of age. There were 2 deaths of infants from congenital debility, 5 deaths from premature birth, and one death from a congenital malformation.

The 12 deaths from pneumonia included 8 from bronchopneumonia, 1 from lobar pneumonia, and 3 from pneumonia (type not distinguished).

Fifteen deaths were caused by organic diseases of the heart.

There were 16 deaths from bronchitis.

Of two deaths from accidental causes, one was caused by a tram-car.

In three instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the death of one child under 5 years of age and the death of one person aged 72 years. Forty-seven of the persons whose deaths were registered during the week were under 5 years of age (31 being infants under one year, of whom 9 were under one month old), and 34 were aged 65 years and upwards, including 24 persons aged 70 and upwards. Among the latter were 14 aged 75 years and upwards, of whom one (a female) was stated to have been aged 92 years.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act. 1889," and the "Tuberculosis Prevention (Ireland) Act. 1908," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C. B., M. D., Medical Superintendent Officer of Health for the City of Dublin; by Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban

District; by Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; by Mr. Mooney, Executive Sanitary Officer for Blackrock Urban District; by the Executive Sanitary Officer for Kingstown Urban District; and by Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

Table showing the Number of Cases of Infectious Diseases notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended December 27, 1913, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Measles	Rubella, or Epi- demic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Pyrexia (origin uncertain) a	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Whooping-cough	Cerebro-spinal Fever	Tuberculous Phthisis Tuthesise.	Acute Polio- myelitis	Tital
City of Dublin	Dec. 6 Dec. 13 Dec. 20 Dec. 27	0 0	0 8 *	28 19 19 15	1 -	111	11 13 17 8	-	1	9 9 11 3	5 2 6 2	-	* .	-	26 18 27 6		81 62 80 85
Rathmines and Rathgar Urban District	Dec. 6 Dec. 13 Dec. 20 Dec. 27	0 0	*	1 3 21 4	-	- - -	5 9 6 9	- 1 - 1	- - -	1 2 1 -	-	-	0 0	•	*	•	6 14 9 7
Pembroke Urban District	Dec. 6 Dec. 13 Dec. 20 Dec. 27	- - 1	- -	1 - 1 1		-	1 1 1	-		3 1 5 -	1 -	-	1	*		*	6 1 8 8
Blackrock Urban District	Dec. 6 Dec. 13 Dec. 20 Dec. 27	0 0	@ © ©	-			2	-	-	-	1	-		-	:	*	1 - -
Kingstown Urban District	Dec. 6 Dec. 13 Dec. 20 Dec. 27	* * *		- 1 - -		- - -	- - -	-		-		-	*	* * *	-	•	1 -
City of Belfast	Dec. 6 Dec. 13 Dec. 20 Dec. 27	•	6 6	84 89 66 50	-	-	7 16 12 9	- 2	1	3 2 3 1	9 8 6 5	- 1		- 1	10 8 4	1 -	104 126 95 78

a Continued Fever

Cases of Infectious Diseases under Treatment in Dublin Hospitals.

During the week ended December 27, 1913, 3 cases of enteric fever were admitted to hospital, 8 were discharged, and 52 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the three preceding weeks having been 63, 52, and 57.

One case of typhus was admitted to hospital and 4 cases

remained under treatment at the close of the week. The cases in hospital at the end of the 3 preceding weeks had numbered 2, 3, and 3, respectively.

Five cases of measles were admitted to hospital, there was one death, 2 cases were discharged, and 10 cases remained under treatment at the close of the week. At the end of the 3 preceding weeks such cases were 8, 8, and 8 respectively.

Twenty-three cases of scarlet fever were admitted to hospital, 25 were discharged, and 124 cases remained under treatment at the close of the week. This number is exclusive of 21 patients under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital. At the close of the 3 preceding weeks the cases in hospital had been 115, 121, and 126, respectively.

Twelve cases of diphtheria were admitted to hospital 29 were discharged, and there were 2 deaths. The cases in hospital, which at the close of the 3 preceding weeks had numbered 84, 79, and 84 respectively, were 65 at the close of the week under review.

In addition to the above-named diseases, 5 cases of pneumonia were admitted to hospital, 2 were discharged, and 26 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, December 27, in 96 large English towns (including London, in which the rate was 14.0) was equal to an average annual death-rate of 14.8 per 1,000 persons living. The average rate for 16 principal towns of Scotland was 17.9 per 1,000, the rate for Glasgow being 17.3, and that for Edinburgh, 18.6.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended December 27. From this report it appears that of a total of 100 cases notified, 49 were of searlet fever, 16 of phthisis, 25 of diphtheria, and 10 of erysipelas. Among the 588 cases of infectious diseases in hospital at the close of the week were 308 cases of scarlet fever, 128 of phthisis, 86 of diphtheria, 41 of measles, 4 of enteric fever, and 15 of erysipelas.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of December, 1913.

Mean Height of Barometer. - -- 30.105 inches. Maximal Height of Barometer (21st, at 9 a.m.), 30.726

Minimal Height of Barometer (3rd, at 6 p.m.), 28.950

Mean Dry-bulb Temperature, - -41.5°.

- 39.8°.

- 37.6°.

Mean Elastic Force (Tension) of Aqueous Vapour, .231 inch.

Mean Humidity, - - - 85.4 per cent.

Highest Temperature in Shade (on 8th), - 56.8°.

Lowest Temperature in Shade (on 31st). - 25.6°.

Lowest Temperature on Grass (Radiation) (31st), 23.9°.

Mean Amount of Cloud, - -- 60.2 per cent. Greatest Daily Rainfall (on 3rd), General Direction of Wind - 1.863 inches.

.551 inch.

Remarks

December was a month of extremes as regards air temperature. Up to the 16th it was singularly mild owing to the constant prevalence of winds from westerly points blowing on shore off the Atlantic. These winds were determined by a high pressure system which stretched from the Azores to Spain and France, while atmospheric depressions often of considerable depth and intensity passed eastwards from Iceland to Northern Europe. In the interval from the 3rd to the 6th, one of these low pressure systems travelled from the Hebrides to Lapland. Snow fell in Scotland as the disturbance crossed that part of the Kingdom and on the early morning of the 6th a very severe frost occurred over the northern parts of Great Britain, the thermometer falling to 25° at North Shields, 24° at Aberdeen, 22° at Leith, 19° at Wick, and 15° at Nairn. At Balmoral the minimum in the screen was 7°. By the morning of the next day, Sunday, the 7th, the thermometer had risen to 41° at Wick. After this brief spell of cold, the mild weather became established again in Scotland. On the 16th an anticyclone spread over Ireland from the South, the westerly winds died out and light easterly winds set in, accompanied in Ireland by a densely clouded sky. In Dublin the sun was not seen on the 17th

or on the three following days. With a clearing sky on the 21st temperature gave way, remaining low to the end of the month, except for a brief space on the 25th and 26th when strong S.W. winds and rain prevailed. As the depression which caused this break in the weather, travelled southeastwards from the south of Norway across Central Europe to the Mediterranean snowfalls and severe frost accompanied it or followed in its wake. Thus it came about that even in Ireland the mean temperature of the month was about the normal, notwithstanding the great mildness of the first fortnight. A special feature in the month's weather was the frequency of sheet lightning at night, particularly during the first week, when thunder-storms passed over some districts in both Ireland and Scotland.

In Dublin the arithmetical mean temperature (42.3°) was slightly above the average (42.0°) ; the mean dry-bulb readings at 9 a.m. and 9 p.m. were 41.5° . In the forty-nine years ending with 1913, December was coldest in 1878 (M.T. = 32.8°), and in 1874 (M.T. = 36.8°); warmest in 1898 (M.T. = 47.6°), and in 1900 and 1905 (M.T. = 47.1°). In December. 1912, the M.T. was 46.1° .

The mean height of the barometer was 30.105 inches, or 0.230 inch above the corrected average value for December—namely, 29.875 inches. The mercury rose to 30.726 inches at 9 a.m. of the 21st, and fell to 28.950 inches at 6 p.m. of the 3rd. The observed range of atmospheric pressure was, therefore, 1.776 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 41.5. or 5.3 below the value for November, 1913. Using the formula Mean Temp. = Min. + (Max. — Min.) × .52, the value was 42.5°, or 0.4° above the average mean temperature for December, calculated in the same way, in the thirty-five years, 1871-1905, inclusive (42.1°). The arithmetical mean of the maximal and minimal readings was 42.3°, compared with a thirty-five years' average of 42.0°. On the 8th the thermometer in the screen rose to 56.8°—wind, S.W.; on the 31st the temperature fell to 25.6°—wind, calm. The minimum on the grass was 23.9° on the 31st. Frost in the screen occurred on the last 3 nights, and 9 nights of frost on the grass were recorded.

The rainfall was 1.863 inches, distributed over 12 days. The average rainfall for December in the thirty-five years, 1871

1905, was 2.250 inches, and the average number of rain-days was 17. The rainfall, therefore, and also the rain-days were considerably below the average. In 1876 the rainfall in December was very large—7.566 inches on 22 days. In 1868 (which was otherwise a fine and dry year), 4.749 inches fell on as many as 27 days. In 1911 also, 4.073 inches fell on 26 days in December. On the other hand, in 1867, only .771 inch was measured on 13 days; in 1885, only .742 inch on 10 days; in 1892, only .795 inch on 10 days; and in 1871, only .797 inch on 15 days. In 1912, the rainfall was 1.888 inches, but the rain-days were as many as 23.

High winds were noted on 11 days, and attained the force of a gale on three occasions—the 3rd, 4th. and 26th. The atmosphere was foggy in Dublin on the 26th, and 31st. Snow or sleet fell on the 4th, 24th, and 28th; hail on the 4th, 26th, and 31st. A lunar halo was seen on the 9th and 11th; a lunar corona on the 11th. Lightning was seen on the 3rd, 5th, 25th, and 28th. Snow lay during the last 4 days.

The rainfall in Dublin during 1913 amounted to 28.842 inches on 190 days, compared with 27.649 inches on 208 days in 1912, 23.477 inches on 189 days in 1911, 35.439 inches on 219 days in 1910, only 16.601 inches on 160 days in 1887, and a thirty-five years' (1871–1905) average of 28.000 inches on 198 days.

Mr. C. D. Clark reports that at the Normal Climatological Station in Trinity College, Dublin, the mean height of the barometer was 30.102 inches, the range of atmospheric pressure being from 30.68 inches at 9 a.m. of the 21st to 29.19 (?) inches at 9 p.m. of the 3rd. The mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 42.6°. The arithmetical mean of the daily maximal and minimal temperatures was 43.1°. The screened thermometers rose to 57.0° on the 8th, and fell to 25.0° on the 31st. On the 31st the grass minimum was 19.0°. Rain fell on 11 days to the amount of 1.784 inches, the greatest fall in 24 hours being .520 inch on the 3rd. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 17.9 hours, of which 3.0 hours occurred on the 1st. The mean daily sunshine was .58 hour. The mean temperature of the soil at 9 a.m. at a depth of one foot was 44.5°; at a depth of 4 feet it was 47.9°.

Captain Edward Taylor, D.L., sends the following return of the rainfall at Ardgillan, Balbriggan, Co. Dublin, for December, 1913:—(Height above sea level, 210 feet.) The total rainfall was 1.95 inches, or 1.01 inches below the average. On the 3rd, the rainfall measured .45 inch, being the most in one day. The rain-days were 12, or 8 below the average. From January 1st the rainfall measured 31.20 inches on 184 days, being 2.06 inches above the average, whereas the rain-days were 6 below the average. The wettest December was that of 1910, 5.31 inches; the driest December was that of 1898, 1.41 inches. The wettest year (1893–1911) was 1910, with 34.71 inches; the driest year (1893–1911) was 1893, with 22.87 inches. The maximum temperature in the shade was 54.3° on the 8th; the minimum in the shade was 27.4° on the 30th and 31st.

Mr. J. Pilkington reports a rainfall of 2.30 inches on 15 days at Stirling, Clonee, Co. Meath. The heaviest falls in 24 hours were .54 inch on the 3rd and .53 inch on the 26th. The precipitation on the 3rd was mostly in the form of snow. The rainfall for the year 1913 at Stirling amounted to 31.90 inches on 194 rain-days. The rainfall was 1.77 inches below the average, and the rain-days were 7 in defect. January was the month of the heaviest rainfall—5.21 inches; July, that of the least—.83 inch. The largest day's measurement was 1.82 inches on September 19th.

Mr. T. Bateman reports that the rainfall at The Green, Malahide, Co. Dublin, was 1.69 inches on 11 days. The greatest fall in 24 hours was .525 inch on the 3rd. The total rainfall for the year was 28.595 inches on 178 days. The heaviest fall in 24 hours during the year was 2.03 inches on September 19th.

The rainfall at the Ordnance Survey Office, Phœnix Park, Dublin, was 1.915 inches on 12 days, the maximum in 24 hours being .380 inch on the 3rd. The total amount of sunshine was 35.9 hours, the largest daily amount being 5.7 hours on the 29th.

At Cheeverstown Convalescent Home, Clondalkin, Co. Dublin, Miss C. Violet Kirkpatrick reports that the rainfall was 1.88 inches on 12 days.

Dr. Christopher Joynt, F.R.C.P.I., registered 1.790 inches of rain on 11 days at 21 Leeson Park, Dublin, the largest measurement in 24 hours being .550 inch on the 3rd. The rainfall in 1913 at this station amounted to 27.538 inches on 176 days.

Dr. Arthur S. Goff reports that at Belfort House, Dundrum,

Co. Dublin, rain fell on 9 days to the amount of 1.68 inches—.49 inch being measured on the 3rd. Temperature ranged from 57° on the 8th and 26th to 27° on the 31st. The mean shade temperature was 42.3° Fahrenheit. Snow fell on the 28th, but only in small amount.

At Manor Mill Lodge, Dundrum, Co. Dublin, Mr. George B. Edmondson measured 2.05 inches of rain on 10 days, the largest fall in 24 hours being .65 inch on the 3rd. The mean temperature was 41.7°, the thermometer having risen to 62° on the 2nd and fallen to 29° on the 30th and 31st.

Mr. W. J. M'Cabe, the observer for the Right Hon. Laurence Waldron, D.L., at Marino, Killiney, Co. Dublin, returns a rainfall of 1.66 inches on 9 days, the heaviest fall in 24 hours being .51 inches on the 6th.

The average rainfall in December at Cloneevin, Killiney, for the 24 years (1885–1908) was 2.342 inches on 17.6 days.

At the Sanatorium of the Dublin Joint Hospital Board, Crooksling, near Brittas, Co. Dublin, Dr. A. J. Blake, Resident Medical Superintendent, recorded a rainfall of 1.80 inches on 13 days. The heaviest day's rainfall was .48 inch on the 25th.

Dr. J. H. M. Armstrong, M.B., reports that at Coolagad, Greystones, Co. Wicklow, the rainfall in December was 2.29 inches on 12 days. Of the total amount .82 inch fell on the 3rd. From January 1st to December 31st, 1913, rain fell at Coolagad on 203 days, to the total amount of 41.63 inches.

Mrs. Sydney O'Sullivan returns the rainfall at Auburn, Greystones, as 1.65 inches on 11 days, the heaviest fall in 24 hours being .60 inch on the 3rd.

Dr. Charles D. Hanan, M.D., reports a rainfall of 1.15 inches on 5 days at the Royal National Hospital for Consumption for Ireland, Newcastle, Co. Wicklow, the maximal fall in one day being .48 inch on the 3rd. The mean temperature of the month was 42.2° (mean max., 46.3°, mean min., 38.0°), and the extremes were—highest, 55° on the 10th; lowest, 30° on the 31st.

The Rev. Arthur Wilson, M.A., reports that rain fell on 16 days at the Rectory, Dunmanway, Co. Cork, to the amount of 3.09 inches, or 4.92 inches less than the average. The heaviest falls were 1.07 inches on the 3rd and .51 inch on the 26th. No rain fell from the 16th to the 22nd, inclusive. Snow fell on the hills on the nights of the 3rd and 27th. There were heavy frosts from the 28th to the 31st; it had been very cold also on the 3rd and 4th, but very mild from the 6th to the 16th.

RAINFALL IN 1913.

At 40 Fitzwilliam Square, West, Dublin.

Rain Gauge:—Diameter of Funnel, 8 in. Height of top—Above ground, 1 ft. 4 in.; above sea level, 54 ft.

Month	1	Total Depth	Greatest Fa	ll in 24 Hours	Number of Days on which .01 or more was recorded
		Inches	Inches	Date	
January,	- '	5.576	1.522	10th	21
February,		.602	.149	24th	12
March,		2,155	.274	2nd	22
April,		2.764	.852	29th	19
May,	. 1	2.802	.668	5th	17
June,		1.198	.251	19th	13
July,		.654	.160	18th	13
August,		.941	.295	9th	10
September,		4.310	1.652	19th	13
October,		3.760	.960	7th	17
November,	- ,	2.237	.514	7th	21
December,	-	1.863	.551	3rd	12
Total	_	28.842	1.652	Sept. 19th	190

The rainfall was 28.842 inches, or 0.842 inch more than the average annual measurement of the thirty-five years, 1871–1905, inclusive—viz., 28.000 inches.

It is to be remembered that the rainfall in 1887 was very exceptionally small—16.601 inches. In 1870 only 20.859 inches fell; in 1884 the measurement was 20.467 inches; in 1883 it was 20.493 inches.

The seanty rainfall in 1887 was in marked contrast to the abundant downpour in 1886, when 32.966 inches—or as nearly as possible double the fall of 1887—fell on 220 days. In 1900 the rainfall was 34.338 inches, or 6.338 inches in excess of the average for the thirty-tive years, 1871–1905. In 1910, also, the rainfall was very large, 35.439 inches on 219 days. Only once since these records commenced has the rainfall in Dublin exceeded that of 1910—namely in 1872, when 35.566 inches fell on 238 days. In 1880 34.512 inches were measured on, however, only 188 days.

In 1913 (here were 190 " rain days," or days upon which not less than .005 inch of rain (five thousandths of an inch) was

measured. This was 8 under the average number of rain-days, which was 198, in the thirty-five years, 1871-1905, inclusive. In 1868 and 1887—the warm, dry years of recent times—the rain-days were only 160, and in 1870 they were only 145.

On only two occasions in 1913 did one inch of rain fall on a given day in Dublin-viz., January 10th, 1.522 inches and September 19th, 1.652 inches. In 1901, the rainfall only once exceeded one inch, but on that occasion (November 11th) the measurement was 2.037 inches. In 1902, 1.342 inches fell on July 25th, and 2.075 inches on September 2nd. An excessive rainfall on August 25th, 1905, is especially noteworthy—it amounted to 3.436 inches in Dublin (Fitzwilliam Square). On no previous occasion within the past 47 years had 3 inches or upwards been measured. It was the ninth occasion only since 1865-that is, in 47 years inclusive—upon which 2 inches have been measured in Dublin at 9 a.m. as the product of the preceding 24 hours' precipitation. The previous excessive falls were—August 13th, 1874 (2.482) inches); October 27th, 1880 (2.736 inches); May 28th, 1892 (2.056 inches); July 24th, 1896 (2.020 inches); August 5th. 1899 (2.227 inches): August 2nd, 1900 (2.135 inches); November 11th, 1910 (2.037 inches); and September 2nd, 1902 (2.075 inches).

The rainfall in the first six months of 1913 was 15.097 inches on 104 days. In the second six months it was 13.745 inches on 86 days.

The rainfall was distributed quarterly as follows:—8.333 inches fell on 55 days in the first quarter, 6.764 inches on 49 days in the second, 5.885 inches on 36 days in the third, 7.860 inches on 50 days in the fourth quarter.

Included in the 190 rain-days in 1913 are 12 on which snow or sleet fell, and 20 on which there was hail. In January hail was observed on 3 days, in February on 1 day, in March on 6 days, in April on 5 days, in May on 1 day, in June on 1 day, in December on 3 days. Snow or sleet fell on 4 days in January, 4 days in March, 1 day in April, and 3 days in December. A thunderstorm occurred once each in June and July. Thunder was heard without visible lightning once in May. Lightning was seen once in January, twice in March, thrice in August, and four times in December.

More or less fog prevailed on 14 occasions—2 in January, 6 in

Abstract of Meteorological Observations taken at Dublin (40 Fitzwilliam Square, West) during the Year 1913.

MONTH	Abs. Max.	Date	Abs. Min.	Date	Mean Daily Max.	Mean Daily Min.	Rainfall	Rain Days	Mean Height of Barometer	Highest Pressure	Date	Lowest	Date	Prevalent Winds
	0		0		0	0	11		1	2		:		
January .	55.4	7th	28.1	13th	17.7	39.0	5.576	21	29.608	30.287	26th	28.875	20th	S, S.W., S.E.
February .	56.1	7th	32.3	14th	48.0	38.7	.602	12	30.088	30.624	12th	29.162	7th	S.W., W., E.
March	57.1	4611	28.1	18th	49.6	38.0	2.155	2.3	29.729	30.468	8th	28.700	19th	W., S.W.
April	1.5 X. 5.1	30th	35.7	26th	53.4	41.7	2.764	19	29.803	30.358	4th	28.800	26th	W., N.E.
May	67.2	24th	38.2	4th & 7th	58.1	46.5	2.803	17	29.859	30.332	14th	29.063	8th	W., S.W.
June	75.1	17th	13.4	12th	63.7	50.5	1.198	133	30.049	30.461	28th	29.601	5th	W., N.W.,
July	72.0	2nd	44.1	8th	65.5	52.9	.634	133	30.120	30.423	2nd	29.858	6th	N.E.,N.W.,N
August -	75.3	14th	46.8	12th	66.2	53.2	.941	10	30.095	30.332	27th	29.749	29th	W., N.W.,
September .	70.0	11th	41.5	18th	61.6	51.4	4.310	13	29.952	30.470	7th	29.030	14th	Variable
October -	64.6	13th	30.0	24th	56.7	47.4	3.760	17	59.768	30.332	23rd	28.857	29th	S., S.E., S.W.
November .	57.1	17th	35.3	22nd	52.6	42.8	2,237	21	29.792	30,453	28th	29.023	12th	W., S.W.
December -	56.8	8th	25.6	31st	46.1	38.5	1.863	12	30,105	30.726	21st	28.950	3rd	W.
Extremes, Totals, and	0 75.3	Aug. 14th	25.6	Dec.	0.55.8	0 45.1	28.842	Days 190	29.914	30.726	Dec. 21st	28.700	Mar.	W., S.W.
Means				Sist	50.50	200							19th	

JOHN WILLIAM MOORE, M.A., M.D., D.P.H., Dubl.; D.Sc. Oxon.; F.R.C.P.I. F. R. Met. Soc.

February, 1 in July, 2 in September, 1 in October, and 2 in December. High winds amounted to gales (force 8 or upwards, according to the Beaufort scale) on 19 occasions—5 in January, 1 in February, 2 in March, 1 in April, 2 in May, 1 in June, 1 in October, 3 in November, and 3 in December.

Solar halos were seen on 10 days, a lunar halo on 9 nights, a lunar corona on 11 nights.

The Rev. Arthur Wilson, M.A., reports that at the Rectory, Dunmanway, Co. Cork, the total rainfall for 1913 was 66.63 inches on 225 days, which is 9.75 inches above the average of the last 7 years. The rain-days were 3 short of the average. The heaviest rainfall up to 1913 was in 1911, in which year 66.10 inches fell on 215 days. In 1912, rain fell on as many as 241 days to the total amount of 64.97 inches.

ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

THE College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one vear of the bequest of the late Señor Alvarenga, and amounting to about one hundred and eighty dollars, will be made on July 14, 1914, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published. They must be typewritten, and if written in a language other than English should be accompanied by an English translation, and must be received by the Secretary of the College, Thomas R. Neilson, M.D., 19 South 22nd Street, Philadelphia, U.S.A., on or before May 1, 1914. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award.

PERISCOPE.

HARD WATER AND OLD AGE.

A FEW months ago we received a communication from a lay correspondent in which he expressed his belief "that the lime in common water has much to do with bringing on old age." In an annotation entitled "Hard Water Fallacies," which appeared in our issue of June 28th, we said that the belief, although fairly common, was fatuous, pointing out that the amount of lime salts consumed in the daily diet was largely in excess of that contained in a daily allowance of the hardest water supplied to the community. In an interesting article published in another column of our present issue under the title of "Hard versus Soft Water," Dr. J. C. Thresh gives the results of an extended inquiry which he has made into the question of a possible relation between the hardness of water and the death-rates. His conclusion is that there is no such relation. Taking the averages for the five years (the period of his calculations) the differences between the death-rate for the area with the softest waters and the area for hardest waters is, he points out, in one instance (the metropolitan area) only 0.1 per 1,000, and in the other (country towns) only 0.2 per 1.000, whilst the moderately hard water areas taken together have a death-rate exceeding that of the hard water areas of from 0.1 to 0.2 per 1,000. These differences he regards as so slight that only one conclusion can be deduced-namely, that the natural character of the water supplies in this country has no effect upon the death-rates. Incidentally they confirm also a previous opinion which he expressed, that the filtered water from the sewage-polluted rivers, the Thames and Lea, is as wholesome as the water from our very deep wells and gravel springs. In 1893 the famous River Pollution Commission reported that "where the chief sanitary conditions prevail with tolerable uniformity, the rate of mortality is practically uninfluenced by the softness or hardness of the water supplied to different towns, and the average of mortality in the different water divisions varies far less than the actual mortality in the different towns of the same division." There is obviously a concordance of observations here which should place at rest the contention that an increased rate of mortality is favoured by hard water. It may be added, however, that a hard water-supply introduces enormous economic inconveniences, amongst which are the furring of the service pipes and fittings and a waste of soap.—The Lancet, October 11, 1913.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

'Tabloid' Three Glands.

'TABLOID' Three Glands represents Thyroid Gland, gr. 6 (0.389 gm.); Supra-renal Gland, gr. \(\frac{3}{4}\) (0.649 gm.); and Pituitary Gland, gr. 1/16 (0.004 gm.), and is issued on the assumption that degeneration of the thyroid, supra-renal and pituitary glands is responsible for the greater liability of the subject to tumour-growth after middle age. The existence of an intimate interglandular relationship between these three glands is borne out by recent authoritative research, and arising out of the search for a governor of cell-activity capable of restraining aberrant cell-growth, it has been suggested that cancer may be due to a loss or impairment of some secretion which governs cell-growth or increases tissue-resistance. The beneficial effects of thyroid feeding, for instance, in certain recorded cases of inoperable cancer, give grounds for hope that extended investigations will yield a successful or, at least, a beneficial organo-therapy or opo-therapy. Clinical trials of 'Tabloid' Three Glands, in which thyroid, supra-renal and pituitary eloments are represented in the proportions normally present in the body, resulted in an increase in weight of the patient of six pounds at the end of two months' treatment in a case of carcinoma of the pharynx, while an augmented dose resulted in vastly improved deglutition and continued improvement. 'Tabloid' Three Glands is issued by Messrs. Burroughs Wellcome & Co. in bottles of 100.

Natural Carlsbad Sprudel-Salt.

For more than five centuries the hot mineral springs of Carlsbad, Austria, have been famed for their wonderful medicinal effects. The total dissolved salts—chiefly sodium sulphate, sodium bicarbonate and sodium chloride—yielded annually by the springs represent the enormous total of

^a See British Medical Journal, p. 1625, December 16, 1911 See also Liverpool Medico-Chirurgical Journal, p. 413, July, 1913.

19,800,000 pounds. Both the water itself and the salt obtained by its evaporation are exported in immense quantities year by year. The Springs belong to the Municipality of Carlsbad. and the bottling and shipment of the water and salt are carried out under the direction of municipal officials with the most scrupulous care. A firm, incorporated under the title of the "Karlsbader Mineralwasser-Versendung Löbel Schottländer," has the exclusive right to export the products of the springs. For that firm, Messrs. Ingram & Royle, Ltd., Bangor Wharf and 45 Belvedere Road, London, S.E., are the sole agents for the United Kingdom and the Colonies. From them we have received samples of the Natural Carlsbad Sprudel Salt put up in glass bottles containing 100 grammes, and each bearing the trade mark of the Carlsbad Company on the label. and the trade mark and signature of the company on the paper band which seals each bottle. Sprudel-Salt is an alkaline, easily soluble diuretic in small doses, and a valuable aperient in larger doses. Five to ten grammes may be taken in ordinary drinking water. If the water is hard, the solution becomes a little turbid, but this does not interfere with the efficacy of the salt—at least to any material extent.

" Digalen" Hypodermic Tablets.

These tablets have been introduced by the Hoffmann-La-Roche Chemical Works, Ltd., 7 and 8 Idol Lane, London, E.C., to supply the demand from medical practitioners for a stable, accurate and convenient means of preparing a solution of "digalen" for intramuscular injection at a moment's notice. Each tablet contains 1/250 gr. of digitoxin soluble cloetta, and when dissolved in 15 minims of sterile distilled water forms a solution of the same strength as "digalen." A tube of twelve tablets costs two shillings and three pence. A box contains four such tubes. When administered hypodermically the injection should be made fairly deep, and not merely into the subcutaneous tissue, otherwise some local irritation is liable to develop if the patient be susceptible.

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OP

MEDICAL SCIENCE.

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PART I. ORIGINAL COMMUNICATIONS.

ART. VII.—Lacerations of the Perinæum and their Treatment.^a By E. Hastings Tweedy, F.R.C.P.I.; Gynæcologist to Dr. Steevens' Hospital, Dublin.

This subject has received but scant attention of late years, and the general belief is that the last word has been said concerning it. Yet even to-day there obtains a vast difference of opinion as regards details of treatment. These differences are much too important to be ignored, for, in truth, they depend on fundamental principles of obstetrics—principles which are being fast lost sight of because of the very perfection of our surgical art.

It was formerly thought that tears of the perineum occurred as a mere splitting through the median raphe, and their importance was gauged by their length. The old classification of three degrees of tear is still reproduced in text-books, and remains a dogma which has long since outlived its meaning.

The classical symptoms associated with partial rupture

Read before the Section of Obstetrics in the Royal Academy of Medicine in Ireland, on Friday, February 6th, 1914. [For the discussion on this paper see page 222.]

1 :

of the perinæum are not dependent on the extent of the medial rupture, but rather on the severity of the lesion in the levator ani muscles.

These muscles have been aptly compared to a sling, the thong of which is represented by the perincum.

Were a sling loaded with a breaking force, it is obvious that its dissolution must take place in one of three directions: (1) Rupture might occur through the centre of the thong; (2) one or both lateral supports might give way; (3) these lateral supports, without actually breaking, might be dragged from their attachments to the thong. Similarly, lesions of the perinaum may occur in these three different directions, but whilst the first and second varieties are very rare, the last, i.e., tearing of the muscle away from its perineal attachment, is very common.

I do not know how far it is recognised that the muscle fibres are seldom snapped asunder, but that in the majority of cases they are torn from their insertion into the perinæum. Such a catastrophe will leave the skin and superficial fascia intact, and it is the rule rather than the exception to see vigorous and misdirected efforts made to support the perinæum at a period long after its tearing has actually occurred.

The intimate connection between the muscle and the mucous membrane causes both structures to give way together, and such tearing is almost invariably followed by a slight flow of blood. This blood is often confused with the "show," but it should rather be looked upon as a certain indication, not that the perinaum will tear, but rather that it has already torn.

The retraction of the muscle away from the perinaum can be easily demonstrated by inserting a finger through the vulva during a pain. If one feels inclined to adopt a suggestion recently put forward as a means of preserving the perinaum, an object lesson pointing to a similar conclusion can be learned. The plan I allude to is the fixing of a wide cross-stitch into the thinned-out perinaum before

the skin has ruptured. This is supposed to afford support, and failing such support it is said to provide a properly placed suture for closing the laceration. It is needless to say that this device fails in both its objects. It does not prevent the tear, nor will it be found to hold within its grip any more important structures than skin and superficial fascia, proof positive that the muscles have already separated before the skin lesion occurs.

Support of the perineum as carried out in the Rotunda Hospital is a rational and useful procedure. It cannot do harm, and it probably does much good. To make it effective, however, it is necessary to bring it into operation before the blood flow occurs.

The thinly stretched-out perineal skin, deprived of its underlying supports, rarely escapes uninjured from the subsequent processes of labour.

A clear view of the tear can be obtained immediately after the birth by adopting the following manœuvre:—

The left arm is passed between the legs from before backwards whilst yet the patient is on the side. Three or four fingers of the corresponding hand enter the vagina, and are turned so as to make their knuckles look towards the anus; a wide speculum is thus formed which holds forward on its palmar surface the cord and membranes.

The Y-shaped laceration is now clearly seen with its deep lateral sulci forming the arms of the Y, which arms are separated by an ædematous tongue of mucous membrane, part of the back wall of the vagina. If the apex of the cervix be now pressed by the middle finger up toward the cervix the full extent of the raw surface becomes apparent and the ragged muscle ends can be made out. It is clear that the most perfect anatomical reunion will not occur unless the upper and lower surfaces can be united throughout their widest extent and that any closure of the vaginal mucous membrane preliminary to deep suturing must diminish this area, and prevent the approximation of important muscle bundles.

Diminution of this area was at one time thought to be

an important advance in treatment, as it lessened the amount of tissue gripped by the perineal sutures, but the fallacy of this belief is now very apparent.

Many still employ separate sutures for the mucous membrane, and claim that a more accurate adaptation of parts can thereby be procured, and a more perfect barrier against infection from lochial discharges be obtained.

My former colleague in the Rotunda hospital, Dr. T. H. Wilson, now Professor of Midwifery in Dublin University, was a firm believer in the advantages obtained by these sutures, and differed in this respect from all his predecessors so far as I could ascertain. I watched his results with close attention, and formed a very definite opinion that no justification existed for the belief that suppuration was rendered less likely by the presence of vaginal sutures; on the other hand, I have often seen deep suppurating tracts result from the insertion of buried catgut into the vaginal tears. Furthermore, the muscle fibres which lie to the outer borders of these mucous membrane rents are not placed in a position anatomically correct when fastened to the side of the mucous membrane tongue. My greatest objection, however, to the closure of the lateral sulci as a separate manœuvre is that their closure involves the placing of the patient in the cross-bed position, and nearly always calls for the administration of an anæsthetic. Such exposure and disturbance come at a time when it is most desirable to keep the patient quiet and at rest. There are many serious objections to the employment of the cross-bed position when it can be avoided. It most certainly increases labour shock, exposes the patient to cold, and is very frightening. To perform an aseptic operation in the position requires the presence of many assistants. Without such help it is very hard to satisfy the requirements of surgical cleanliness, and I have never seen a perinaum stitched in this manner under the conditions which obtain in a private house where these requirements were satisfied. The operator's hands, instruments, or ligatures are almost

certain to come into contact with structures far removed from surgical cleanliness. The position is more fitted to the consultant whose chief work is performed amidst the costly surroundings of a modern operating theatre than to the practising obstetrician.

It is my custom to suture the perinæum immediately after the infant has been severed from its cord, and before the fingers employed for exploring the wound have been withdrawn.

At this time the patient has not fully recovered from the effects of the anæsthetic, and can be kept from embarrassing movements by the arm held between her legs. If stout unchromicised catgut be used, no necessity will arise for cutting out the sutures, and the patient need never be aware of the fact that she has been torn.

A large needle three inches long, with a curve which falls just short of a semi-circle, is held in the hand without the aid of a needle-holder. It is threaded with a long suture, the end of which is wound round the little finger to keep it clean. The needle point is entered at the skin edge of the posterior extremity of the wound. It is then rotated so as to make its concave surface look towards the floor. This enables it to sink deeply into the lateral tissues, and when it has sufficiently accomplished this purpose it is again rotated and pushed on until it lies beneath the tip of the index finger, the one which holds back the base of the tongue of mucous membrane. It now penetrates deeply into the upper raw surface and is brought out through the skin at a point which corresponds to its entrance. The second suture is placed in position about half-an-inch in front of the first one. It pierces the apex of the tongue before crossing to the upper surface. Other stitches similarly may be placed in position, and each will enfold a smaller amount of tissue than its predecessor.

It will be noted that all sutures lie parallel to the bowel, and the latter, consequently, is in no danger of injury.

This operation appears to me to approach very closely

the ideal in obstetrics, for with minimum effort maximum results are obtained. The plan permits of full exposure of the raw surfaces. Aseptic difficulties are absent. The direction of the sutures, which are made to run parallel to the bowel, precludes the possibility of its injury, and success depends on one's own efforts, not on those of the assistants.

The best results in obstetrical practice are not obtained by costly surgical appliances, and it is upon the recognition of this fact that the success of the Dublin School has been built. No published figures from any obstetrical hospital approach the Rotunda in lowness of morbidity percentage, and in no other institution are the efforts of Nature exploited to a greater extent. In proof of this assertion, I need only point to the incidence of persistent occipito-posterior position. A comparison of figures will show that forceps is less often applied to overcome this abnormality in Dublin than elsewhere, and failure in normal rotation is observed in less than one per cent. of infants born. Similarly throughout the whole history of the hospital there has been shown a clear appreciation of the limitations of surgery.

Obstetrical surgery does not run on lines parallel with those of general surgery, and this elementary principle should not be lost sight of.

The general surgeon surrounds himself with elaborate paraphernalia, and relies greatly upon the co-operation of his assistants. He can afford to finish his work to its most minute detail, and can with impunity permit himself mental lapses which might spell disaster in midwifery practice. In the latter the actor relies wholly on himself. He has to perform his part without any stage properties, and win success despite of adverse surroundings. In order to do so, his resources must be skilfully husbanded, and, discarding the mere trimmings of his art, he must hold firmly by the essentials.

I must not be taken as condemning the scientific arrangements available in the modern up-to-date hospital.

In such hospitals it is possible to demonstrate the brilliancy of obstetrical surgery, and to show how foolproof the conduct of a normal delivery can be made. Nevertheless it remains true that unnecessary interference cannot be practised even in these aseptic institutions without increasing the morbidity percentage rate.

The secondary repair of incomplete lacerations can be accomplished with great certainty and ease by a slight modification of the original Lawson Tait operation.

After the preliminary incision the scissors should be laid aside and not again used; the deepening of the raw surfaces can be more quickly and safely accomplished by a gauze wipe, or by the gloved fingers. The separation follows the direction of the original tear, that is to say. the apex of the tongue remains adherent to the rectum whilst deep sulci are opened up at either side of the bowel. The muscle bundles occupy the outer edges of these surfaces, and if they are brought together by deep sutures a perfect repair is accomplished. The method of blunt dissection obviates the necessity of passing a finger into the rectum, and is perfectly free from danger to the bowel. It makes the operation almost bloodless, for it is often a matter of amazement to see how large are the vessels laid bare without being ruptured. The directions previously given for inserting sutures should be followed, but when the needle has taken up a thick, lateral mass of tissue it is best to make it cross the rectum and follow the course recommended by Tait. The last of the three crossstitches should hold in its grip thick lateral masses of tissue, and must not be inserted through any thin skin flap. The danger of narrowing the vulval orifice to too great an extent will be thus avoided, and any raw surface which remains may be closed by one or two superficial catgut sutures passed from above downwards.

I do not care to operate on secondary repair until the expiration of two months after the birth of the child. Before this time the parts are soft and vascular, and have not completed their full involution.

In rare cases of operative delivery, the fibres of the levator muscles are snapped in two, and not merely torn from their insertions. The laceration will then assume alarming proportions. It may extend up the vagina to the cervix and leave the rectum bare of all attachments, save those connected with its posterior wall. The sphincter usually escapes destruction, and is seen to cross this gaping cavity in a clear dissection. Hirst describes a very severe laceration of this nature where he was enabled to see clearly the obturator foramen. The perineal tear in these cases is not placed in the mid line, but passes to one side of the raphe.

Under such untoward conditions success in treatment will depend on our ability to reunite the muscle bundles, and a painstaking effort to do so will usually yield favourable results.

In complete laceration of the perinæum the levator ani muscles are never torn, and, therefore, none of the symptoms associated with incomplete tear arise. The muscles though separated are functioning perfectly. They remain enclosed in their intact sheaths, and obtain their points of resistance from the portions which still remain united at the median raphe. The cardinal factor in the cure consists in the efficient approximation of the severed ends of the sphincter muscle.

The immediate operation consists in stitching the torn bowel with interrupted catgut sutures in such a way as to make the knots occur on its inner lumen. Then the sphincter ends are joined by two sutures, the first of which is placed to the side of the anus and on a level with its back wall. It passes through the portion of the muscle nearest the skin. The second one placed half-an-inch above the first embraces the deep border of the muscle. Both should pierce the outer coats of the rectum as they are passed across it, before entering the corresponding tissues at its other side. The perinæum proper is then to be attended to, and it is not necessary in this instance to gather up deep lateral masses of tissue, for the levator

muscles not being retracted can easily be brought together. To perform this repair it is easier to have the patient placed in the cross-bed position than on the side, but when conditions are not favourable, as regards assistants and surgical cleanliness, the side position is much to be preferred.

The secondary repair is carried out on precisely similar lines, and the Lawson Tait incisions enable it to be accomplished in a very perfect manner. Howard Kelly's suggestions for the after treatment of complete tears are of the utmost value. He keeps the bowels confined for many days by giving opium and excluding all food, save albumen water, and this in small amounts. When the bowels are subsequently moved by an injection of olive oil the fæcal accumulation will be quite small.

An important point remains to be dealt with, namely—the time best suited for the repair operation.

In recent tears immediate union is theoretically the best, but in practice a cure may, with equal confidence, be looked for at the expiration of eight or ten hours, and, indeed, granulating surfaces brought together on the eighth day heal with great certainty.

ART. VIII.—A Fatality after Salvarsan.^a By G. E. NESBITT, M.D., F.R.C.P.I., D.P.H.; Asst. Physician, Richmond, Whitworth, and Hardwicke Hospitals.

The necessity of obtaining, as accurately as possible, statistics of mortality after the use of this drug, has compelled me to put on record the details of a disastrous case recently under my care. As far as published accounts go we seem to be fortunate in Dublin in our immunity from fatal effects after "606"—the only case reported at this Academy being, I believe, that by Dr. Henry Moore (Trans., 1912), which has some features, especially in the onset of fatal symptoms, closely resembling my own.

* Read before the Section of Medicine in the Royal Academy of Medicine in Ireland on Friday, January 30, 1914. [For the discussion on this paper see page 219].

That this is not due to lack of employment of the drug is well known to many here who use it frequently—only one death is recorded out of about one thousand cases in the R. A. M. C., Dublin, while the Westmorland Lock Hospital with even more cases, has had no fatalities.

The details of the following case have been collected from various sources, in order to present a comparatively complete picture of the life history.

J. D., male, age twenty-five, was admitted to the Whitworth hospital on November 26, 1913, under my care during the absence of Dr. Travers Smith. He complained of pain and stiffness in the neck and shoulders, sore throat, and some difficulty in swallowing.

His comparatively short life seems to have been a continuous record of medical experiences. His mother told me that he was "a fine baby" when he was born—the third in a healthy family of five-but during childhood was delicate, suffered from "gastric fever," and there is a suggestion that he exhibited early "snuffles." At twelve he contracted scarlatina, and at fourteen developed some peculiar rash on the skin. At the age of nineteen he injured his right leg at football, was in a hospital for three months, during which some operations were done, and, curiously enough, he subsequently developed a similar condition of the left leg, apparently without any injury. The following year he was under the care of the late Dr. A. H. Benson, who operated on him for "bad sight and running from the eyes." The nature of the operation was afterwards evident as a double iridectomy. Next year he was an out-patient for some time with Dr. Gogarty at the Richmond hospital, suffering from "sore throat"—apparently syphilitie. The year after, i.e., 1910, he attended my medical dispensary at the hospital, complaining of double vision. He stated that three weeks before he had noticed objects (posters on the wall) were double when he looked towards the right side—towards the left he could see as usual. This, coupled with his curious facial aspect, led me to admit him at once to hospital as a case of congenital syphilis. He remained in hospital about a month, and under Hg. and KI. soon recovered from his troublesome symptom. I did not see him again for three and a half years, but Dr. Kirkpatrick, who, on seeing the photographs, at once recognised the boy, informed me that he had been for time under his care at Steevens' hospital with gonorrhea. During this time he also contracted a sore on the penis, which resulted in a depressed scar about half an inch in diameter. He was treated for this in some private dispensary, was not told the nature of the disease, but had no resulting rash or other evident symptom of it having been syphilitic. On November 26 last I admitted him again to the hospital with the symptoms stated above.

Examination.—Patient was a poorly developed lad, with the striking facies partly shown in the photograph [exhibited]. His eyes were prominent and staring, and showed evidence of double iridectomy with slight opacities. Nasal breathing was obstructed, and the thick-lipped mouth was constantly open. The bridge of the nose was markedly depressed, teeth were very defective, voice hoarse and weak. The tongue was dirty, showed some scarring, while the fauces presented a unique appearance. The soft palate resembled parchment, was stretched across the back of the mouth, completely obscuring the nasal-pharynx, the curved free edge presenting no sign of a uvula. Atrophic scars were present over the upper part of both tibiæ. The urine was free from albumen and sugar, the circulatory system was normal, but the lungs showed somewhat deficient air entry. Nothing abnormal was detected in the abdomen, nor in the nervous system, the reflexes being normal. Temperature was normal throughout, but two points were noticed on comparing the later notes with those of his previous chart (1910), viz., that his pulse was persistently faster (100 to 110), and that he had lost nearly one and a half stone in weight.

The most striking feature of the case, however, was the rigidity and pain on attemped movement in the lower cervical spine. No irregularity could be detected, but there was some tenderness to strong pressure. Except for the stiffness of his neck he was fairly comfortable during the day, but it was reported by the night staff that during sleep he got attacks of difficult breathing, amounting almost to suffocation, which sometimes became alarming. When he awoke this would pass off. The sister in charge, however,

several times expressed her belief that "something serious was wrong." Dr. Gogarty kindly examined him for me and reported old standing ulceration and narrowing of the larynx.

I considered the case one of congenital syphilis, probably with gumma formation in the thorax. The spinal symptoms I was puzzled to account for, but hazarded an opinion that it might be a condition of spondylitis deformans, which M'Donagh believes to be genococcal in origin.

Professor M'Weeney very kindly did a Wassermann reaction on December 3, and pronounced it to be strongly positive. He stated that he had not met a case af congenital disease at this age giving such a marked result, and thought that it must be an acquired case. From the history, however, it is evident that the boy presented syphilitic symptoms at a comparatively early age, and subsequent pathological findings disclosed the late stage of the case. The main difficulty in accepting the diagnosis of congenital disease was the family history. Since then I have had an opportunity of seeing the other members of his family, who are all apparently healthy. His father and mother are alive and well; he was the third in the family of five, and there was no history of miscarriages or early deaths. Nevertheless my opinion still is that he had congenital syphilis, or had acquired the disease in a very precocious fashion.

On December 13, therefore, I gave him 0.4 grm. salvarsan intravenously, using Arzt's and Schranck's needle, which I find most satisfactory. The usual precautions were adopted in the preparation of the solution; fresh distilled water was employed, and no difficulty whatsoever was experienced. Before I left the hospital (i.e., in about an hour) he got a severe rigor (I had not before found it coming on so quickly), and his temperature reached 103°. This passed off, and during the evening he felt much better—in fact quite comfortable. The evening temperature was 100°, and pulse 100°. About 11.30 he had a second rigor (temperature 102°), was rather collapsed, but rallied with strychnine and alcohol.

He again improved, slept a little during the night, but was distressed by frequent vomiting of dark fluid. There was no diarrhea or colic; the bowels moved once, but there was complete suppression of urine. Next morning his condition, though decidedly weak, was not such as to cause any alarm; temperature was normal, and he partook of an egg-flip without vomiting. He was somewhat troubled because he had not passed water, and it was afterwards related by some of the other patients in the ward that he had remarked that he knew he would die that day. At eleven o'clock he was quite conscious and appears to have been free from warning symptoms. About 11.30 he sat up to take a drink, dropped the cup, fell back collapsed, and died in about fifteen minutes—twenty-five hours after the injection.

Autopsy.—Performed on December 14, by Dr. Earl, who reports as follows:—

Lungs adherent in places to chest wall, the right somewhat emphysematous. Heart and large vessels normal. Spleen somewhat enlarged, with a little perisplenitis. Stomach considerably dilated, and filled with blackish fluid: mucous membrane normal in appearance. Liver normal in size, but studded with gummata of variable size—in all about a dozen. The appearance presented was at first sight not unlike that of a secondary cancer. Larynx and pharynx exhibited some old scarring with a general leathery appearance of the mucous membrane.

The bodies of the fourth and fifth cervical vertebræ were partly necrosed—the process, however, not extending deeply into the bone nor producing any deformity. Kidneys appeared quite healthy. Microscopic examination of the liver showed typical gumma formation with numbers of giant cells, while sections of the kidney, except for a little congestion, presented a normal appearance.

In the after review of this case, presenting as it does several interesting points, two questions will obviously assume most importance: (1) Should the case have been treated by "606"? (2) What was the cause of death?

With regard to the first:—Instead of becoming clearer with extended experience, the contraindications to the use of "606" seem to be more obscure than when the drug was first introduced, or rather its field of utility has been so widened that it is difficult to say from the litera-

ture of the subject in what conditions it is specially dangerous—in almost all specific manifestations numerous cases are reported of its safe employment. M'Donagh. however, sums up the view of most authorities when he says: "Any visceral lesion, whether syphilitic or not, should be regarded as a danger signal; especially is this the case where the heart, liver, and kidneys are diseased." To this he adds late nervous diseases. The reason for the exclusion of visceral lesions appears to be mainly the inability of such a case to excrete the arsenic. dition of the liver in my case would certainly support the contention, but then, as will appear presently, the man did not seem to die of arsenical poisoning, and in any event I do not see how the condition of the liver could possibly have been foretold. Further, I do not think other treatment would have saved him.

(2) As to the cause of death:—In a paper read before the recent International Congress, by Sir Malcolm Morris and Dr. M'Cormac (Lancet, 1913, Vol. II.) a large number of fatalities have been collected from various sources. Most of these followed a second or third injection, and were ascribed to a kind of anaphylactic reaction. Those who died after a first injection almost all had "such grave conditions as diabetes, aneurysm, aortitis, heart disease, cerebral disease, tabes, general paralysis and cancer." None in this series resembles the case before us, and the most similar I have found is the case of Spiethoff quoted by M'Donagh. This was an anamic and emaciated female of twenty-eight, who suffered from tertiary syphilis of the pharvnx and larvnx. After an intramuscular injection of 0.5 grm, she was found dead in bed in the morning. Post-mortem showed gummata in the liver, and hypoplasia of the heart. Death in this case was attributed to shock, or to the diseased condition of the liver and heart.

Two explanations suggest themselves in my case. First—arsenical poisoning. This does not seem likely, for, with the exception of vomiting, there was a total

absence of signs of such, and the dose was comparatively small. Further, microscopic examination of the liver and kidneys shows no signs of degeneration, nor indeed was there time for its development. Mr. Wm. Caldwell, Trinity Colege, Dublin, kindly examined the liver for traces of arsenic, but failed to find any. I am, therefore, forced to fall back upon some form of vital phenomenon, and the most attractive seems to be what I think is known as the "Wolff-Eisner" phenomenon, i.e., where the sudden destruction of large numbers of parasites sets free a poisonous dose of toxin. Some such explanation would, at any rate, agree with the rapid onset of severe symptoms and with the general character of the fatal termination.

ART. IX.—A Case of Fatal Anæmia.^a By George Peacocke, M.D., F.R.C.P.I.; Physician, Adelaide Hospital, Dublin.

J. S., age forty-three years, a farmer, came under my care in August, 1913, suffering from anæmia, with severe digestive symptoms.

He had been a healthy man all his life, until the previous February, when he noticed that he got easily tired, had not the same strength as formerly, was losing colour, and suffered from pain after taking food, followed by vomiting.

Under the care of his doctor in the country he improved very much, and after a short holiday away from home returned sufficiently well to be able to resume his occupation. He was not, however, as strong as he had been previous to the commencement of his illness, and before long his old symptoms returned, and gradually getting worse he came up to town for further advice.

When I saw him he was very pale, thin, but not emaciated. The skin of his abdomen, chest and back, especially the lower part of his abdomen, was dark in colour—rather more black than brown. His face had a faintly yellowish tinge, but neither it or the hands showed any pigmentation.

His symptoms were great muscular weakness, vomiting.

*Read before the Section of Medicine in the Royal Academy of Medicine in Ireland on Friday, January 30, 1914.

constipation, and pain referred to the lower costal margin on the left side. Examination of the thorax showed the lungs healthy, heart sounds feeble, but no evidence of organic disease. There was a soft systolic murmur audible over the base of the heart, evidently hæmic. His pulse was small and feeble, low tension, and varied in rate from 80 to 100 per minute.

Throughout his illness his temperature was at times slightly elevated, but on no occasion did it exceed 100°F.

His abdomen was rather flat but extremely rigid, and owing to this latter sign I was unable ever to make a satisfactory examination of the abdominal organs. There was no tenderness to pressure, and no visible signs of tumour.

I withdrew the contents of his stomach an hour after a test meal and found complete absence of HCl. For some weeks vomiting persisted—little food was able to be retained and drugs seemed to have no effect in checking it, but for no apparent reason it gradually became less, and he was able to take some solid food.

Constipation was most pronounced. No purgative medicines, except large doses of castor oil, had any effect, and enemata were often failures.

On a few occasions short and rather severe attacks of diarrhœa would occur, only to be followed by a return of constipation. His urine was normal in colour, alkaline on most occasions to litmus paper, contained a faint trace of albumen, but no tube casts.

A blood examination, made by Dr. Adrian Stokes, gave the following results:—

Erythrocytes—2,400,000 per cb. mm.

Leucocytes—3000.

 ${\rm Hæmoglobin}$ —28 per cent.

Colour Index -. 56.

Poikilocytes were present.

No polychromatophilia or nucleated red cells.

Though he stated he had suffered for some time past from hamorrhoids there was never any trace of blood in the motions. There was also no blood detected in the vomited material.

There is nothing further to relate about the case. He gradually became weaker, more amemic, lost flesh, mentally

showed signs of decay, and finally died on December 2, ten months after the first symptoms of ill-health were noticed.

A post-mortem examination was made and nothing was found to account for his illness. The thorax and abdominal organs were all carefully examined, and, though pale, appeared healthy. The adrenals were examined microscopically, and were pronounced normal. The bone marrow was, unfortunately, not removed for examination.

The clinical picture presented by this case suggested at first a diagnosis of pernicious anemia. The previous attack, apparently similar to the present one, from which recovery was almost complete; the severe anemia with gastro-intestinal symptoms; the slight irregular pyrexia and the pigmentation of the skin were all favourable to it. Relying, however, on the subsequent blood examination, which showed "a secondary anemia," I looked for some other cause of the symptoms. Cancer of the stomach had much in its favour, and I came to regard the case as one of malignant disease, most probably affecting the stomach.

The symptoms suggesting this diagnosis were: severe and very persistent vomiting, with complete absence of HCl. from the stomach contents; the progressive emaciation, and the severe anæmia of a secondary type.

The absence of a palpable tumour was not against this diagnosis, as the abdominal wall remained so rigid throughout the entire illness that examination of the abdominal contents was an impossibility.

The only other possible diagnosis was Addison's disease. In favour of it were the gastric symptoms, the extreme muscular weakness, the feebleness of the heart's action, and the pigmented condition of the skin. This pigment was, however, as already mentioned, not on the exposed parts of the body, and was not the colour usually found in this disease. The degree of anemia was also much more severe than is usually found in Addison's disease.

The post-mortem findings put the two latter out of

court. In our text-books a very definite blood picture is given of the changes occurring in pernicious anæmia. Too much stress is, I am sure, laid on a high colour index, though it is generally held that in severe cases it is usually present. The high colour index depends upon the presence of megalocytes in considerable numbers, but in many of the milder forms, and especially in the earlier stages of the disease, mikrocytes often preponderate. The changes in the erythrocytes themselves are of more importance. Normoblasts and megaloblasts, as well as polychromatophilic cells, are regarded as essential for the diagnosis of pernicious anamia. In this case they were conspicuous by their absence, and so, without committing myself further, I have entitled my paper a case of fatal That death was due in this instance to a "primary" anæmia I have no doubt. Are we justified in calling it pernicious anamia? If not, there must be another variety which runs its course to a fatal termination, clinically indistinguishable from the pernicious type, except for the appearances presented by the blood, and for which the ætiology is as vet obscure.

SPANISH ROYAL WARRANT FOR MESSRS. A. WULFING & CO.

With the value of the products of Messrs. A. Wulfing & Co. the medical profession has long been acquainted. The highest awards have been bestowed on the Firm at the various professional Congresses and Exhibitions held in various cities in Europe. The King of Spain has now given his Royal Warrant to Messrs. Wulfing for sanatogen, albulactin, and their other products. The bestowal of this warrant gains additional interest from the fact that it is a matter of common knowledge that albulactin is used in the royal nursery for their Spanish Majesties' infants. Infants to whose bottle albulactin is added always get as much milk-albumen in their food as if they were fed at the breast, while each meal is as easily digested and as little likely to cause any digestive disorder as if it were of breast milk instead of diluted and sweetened cow's milk.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Hæmocytes and Hæmic Infections. By Frederick W. E. Burnham, M.D., C.M. First Edition. With 227 Microphotograms. London: H. K. Lewis. 1913. Royal 8vo. Pp. 462.

This is a combination of two books in one. A treatise on blood cells and blood diseases runs through the volume concurrently with an atlas of photomicrographs, the latter on the odd pages, the former on the even. Starting with a handicap of one page the pictures are at first passed by the letterpress, but show great staying power, catch up about the level of the trypanosomes, and finish winners by 227 pages to 211. There are no references from the pictures to the text or vice versa. All the photographs are taken at a magnification of 3,000 diameters, except those of microfilaria, which are magnified 1,180 times. This obviously helps in the comparison of the different cells and parasites. They are all new and are the work of the author. Many are very good, but some-for instance those of malaria—are disappointing. There is no mention of the methods of preparation, which is a little confusing, as most of the photographs are from stained preparations, but some appear to be made from fresh and unstained ones.

In the text the author reduces the classification of cells to the simplest possible, which may be convenient for clinical work, but differs very markedly from that of most modern workers in hæmatology, of whom Pappenheim is a leading example. It may be noticed that the cell usually called "transitional" appears to be left out. The description of five blood phases in anamia is clear and useful, as the fundamental similarity of the blood

conditions in anæmia from whatever cause is thereby emphasised, and these five phases can be conveniently referred to in the description of any disease. The value of the book is chiefly in the discussion of the blood changes in various diseases, and consequently the help which observation of the condition of the blood may be in diagnosis.

Twelfth Report of the Cancer Research Laboratories of the Middlesex Hospital. Edited for the Cancer Investigation Committee by W. S. LAZARUS-BARLOW, M.D., F.R.C.P. London: Macmillan & Co. 1913.

For some years the workers in the Cancer Research Laboratories of the Middlesex Hospital have been working at the connection between radiations and tumour formation. For instance, the fact that a clay pipe, more often than one of wood or vulcanite, was the apparent cause of tongue cancer led to the investigation of the radiation or radium content of pipe clay. One of the papers in the present series deals with the radium content of gall-stones. confirming the conclusion that those from cancer cases show distinctly the presence of radium, while those from cases of cholecystitis show practically none. Experiments have also been continued on the effect of radium rays on frog muscle-nerve preparations, and on the rate of division in the ova of Ascaris megalocephala. The muscles exposed to the full radiation of radium were found to respond to a smaller electrical stimulus and to have a longer life than the controls, the influence of the radium being partly on the muscle, partly on the nerve. The rate of cell division was found to be increased by the action of a certain optimum quantity of radium, and retarded or inhibited by a greater quantity or more prolonged exposure. It is also shown that radium produces a profound change in the appearance of mitoses in dividing cells, and that it is at least eight times as destructive of cells which are actively dividing as of those which are in a resting condition. Among the eighteen papers in this volume are also a synopsis of the cases of malignant disease in the hospital during the year, observations on the occurrence of lymphomatosis in mice, on the blood in sarcomatous rats, and on Altmann's granules in cells in connection with cancer.

A Short Practice of Midwifery for Nurses, embodying the Treatment adopted in the Rotunda Hospital. By Henry Jellett, B.A., M.D., F.R.C.P.I.; Master, Rotunda Hospital, &c. Fourth Edition, revised, with Six Plates and 169 Illustrations in the Text: also an Appendix, a Glossary of Medical Terms, and the Regulations of the Central Midwives' Board. London: J. & A. Churchill. 1914. Pp. 508 + xiv.

DR. JELLETT'S "Midwifery for Nurses" has become so widely and favourably known that little criticism is required to recommend it. This, the fourth edition, revised, is very similar to the last. A careful revision has brought it into conformity with the existing practice of the Rotunda Hospital, of which institution the author is now the Master. A chapter on obstructed labour is a welcome addition. We are confident that the present work will enjoy the popularity accorded to its predecessors.

Diseases of Children. By John McCaw, M.D., R.U.I., L.R.C.P. Edin., &c. London: Baillière, Tindall & Cox. 1914. Demy 8vo. Pp. xii + 524.

It is pleasant to find a good book on Children's Diseases written by an Irish physician, for although the London and American schools of pædiatries have each brought out a goodly array of books there is not much to show on this side of the water. Dr. M'Caw's book was primarily intended for Belfast medical students, but it is also a volume that every general practitioner would do well to possess.

It is planned on the same lines as most of the larger text-books, and although it sometimes suffers from its brevity, still a good many references are added which would enable a student to look up any point in which he was particularly interested.

There is a capital chapter at the end, entitled "General Information," which gives hints on all sorts of matters connected with the subject—weight, height, dentition, urea output, and even cookery and case taking!

Some improvements might be made in the general arrangement of the book. For example, it is a pity that acute anterior poliomyelitis should not by this time be classified as an infective disease, also that syphilis and acute rheumatism should be placed with scurvy, &c., under "general diseases."

The illustrations, though not numerous, are very good. Generally speaking, in spite of the number of similar volumes already published, the book seems to justify its existence.

Report of Proceedings of the English-speaking Conference on Infant Mortality held at Caxton Hall, Westminster, August 4 and 5, 1913. London: National Association for the Prevention of Infant Mortality and for the Welfare of Infancy. 1913. Pp. 456.

IF any of our readers who are interested in infantile mortality had not the good fortune to be present at the Conference, certainly the next best thing they can do is to read this very full report of the proceedings at that Conference. It may fairly be said that its 450 pages teem with interest, and the Association is to be congratulated, not only on the success of its Conference, but also on the production of such a valuable contribution to the literature on infantile mortality as this report undoubtedly is. The main subject is discussed in all its bearings by such authorities as Dr. Truby King, of New Zealand, Dr. Eric Pritchard, Dr. Hope, and many of the most eminent men of the United States, Canada and Australia.

A division is made into an administrative section and a medical section. The fifteen papers which comprise

the first part deal chiefly with the municipal relation to the problem, and although it is invidious to mention one paper, where all are so good, attention might be drawn particularly to Dr. Gerstenburger's description of what has been done in Cleveland as a model of what might be done anywhere.

The medical section contains eighteen papers, and includes such subjects as training of midwives, dried milk, a paper on syphilis by Dr. Mott, hygiene of pregnancy, patent foods, education of girls, the wet nurse problem. &c. The interest in all the papers is increased by the discussion on them, a resume of which is also included.

Stammering and Cognate Defects of Speech. By C. S. BLUEMEL. In Two Volumes. New York: G. E. Stechert & Company—London—Leipzig—Paris. 1913. Cr. 8vo. Vol. I. Pp. x + 365. Vol. II. Pp. v + 391. IT must be admitted that the discussion with which the text of this interesting and well-arranged work is concerned is one which will attract the appreciative attention of philosophers and philanthropists; as well as of physiologists in general, and of neurologists in particular. For the "Master of those who know" was himself a stammerer, and a "cognate defect of speech" was a congenital peculiarity of his great teacher, the founder of the original "Academy." The subject is here discussed with all the contagious enthusiasm which brightens every specimen of the best literary and philosophical work of our trans-Atlantic cousins—who so readily display the freshness and buoyancy of the intellectual youth of a great and free community; whose representative members are still happily unacquainted with the rheumatic intellectual movements, and jaded tone and expression of thought, which have come to characterise so large a proportion of the mental output of the now matronly stage of existence of the mother community and its more overcrowded country. This happy stage of the existence of individuals and nations has inevitably, of course, the defects which balance its merits, as the unprejudiced and

philosophic observer of humanity and its history will not fail to admit. And the light and shade of the respective aspects of this mentally emancipated and universally educated twentieth century—which so largely relies on the pervading encyclopædia and the ubiquitous ha'penny newspaper, are also suggested by the enunciation of the questions dealt with by our author, and the methods displayed in their treatment.

The title of the work before us recalled the aphoristic saying, of an amateur American philosopher, that "a stammering man is never a worthless one," a fact—as we ourselves believe it to be—that should secure for those so affected all the careful attention as well as discriminating sympathy due to a defect of rather aggressive influence on

speaker and audience.

The present work represents, as the author himself informs us, the results obtained in the course of a quinquennial course of "systematic investigation into the cause of stammering." And he has evidently spared no pains in the process of research. In his preface he gives us a selection from his preliminary notes—a series which should surely be conned and remembered by all those interested in the subject, if they have not hitherto accumulated the requisite fundamental data for examination by themselves. Among the "notes" are the following: "That the stammerer can usually sing without difficulty. That the stammerer can often speak well when alone. That the stammerer is usually fluent when speaking in concert with other people. . . . That the stammerer can usually repeat a word that he has eventually stammered out. . . . That one can stammer in thought as well as in speech. That there are more male than female stammerers. That stammering is rarely acquired after the fifteenth year." The list closes with this last, and we felt a little surprise that the fact was not noted—suggested as it was surely prone to be by that just stated—that stammering is a most infectious disorder among nervous children before that milestone of the human pilgrimage is reached.

A prolonged and carefully detailed study of accumulated facts leads the author to the conclusions regarding causation which are thus summed up in the concluding chapter of his first volume :- "The primary cause of stammering, it has been shown, is transient auditory amnesia. secondary, or auxiliary, causes are bewilderment : perversion of the verbal imagery; auto-suggestion giving rise to inhibition of the will; and, finally, fear." To this summary the author adds :-- "The use of physical effort in speech might be regarded as another of the mediate causes of stammering; but the physical stammering to which it gives rise is really an extraneous symptom. It must be distinguished from the abnormal speech that reflects the verbal imagery and must receive its special form of treatment." From those fundamental data of causation. as arranged by the author, he deduces the following fundamental views regarding the course to be adopted and pursued in carrying out the treatment of the defect :-"It is at once evident that the secondary causes of stammering are themselves effects of the primary causes. If the primary cause, auditory amnesia, could be removed, the secondary causes, fear, wavering of the will, &c., would quickly vanish. The removal of the amnesia is, then, of chief importance."

It may startle some of the affected to meet here, as the statement of the author's view-point, the uncompromising expression that: "The stammerer must diagnose his own case, and determine to what extent each of the several causes conduces to the disturbance of his speech." This suggestion would surely carry with it that of the necessity for "making up" the contents of the two pregnant volumes before us, with all the pertinacious repetition demanded by the conditions of the quinquennial medical curriculum from the mentally overloaded and brain-fagged student of one of the multiplex facts of the art of healing. It would, we strongly incline to think, be, in some instances, at least, out of the large proportion of neurotic stammerers, productive of a degree of mental curvature—as our Gallic neighbours tend to phrase it—

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which would hardly contribute to the permanent improvement of the stability of the physical basis of the mind of the stammerer. And this suggestion of auto-diagnostic practice, we will here take the opportunity of remarking, is decidedly characteristic of the age of inexhaustible supply of encyclopædias and ha'penny journals, of pasteurised milk and of tabloid medicine—of a generation of levelling down, rather than of levelling up; which would tax brains and conscience out of existence, so as to remove all uneasy suspicion of the presence of intellectual or moral superiority. Our author has—evidently with enthusiastic and untiring effort—turned his attention to every aspect of his subject, and can well afford to look down upon the attainments of others in a department of knowledge and research which he has so fruitfully made his own; but the stammering member of the population of our streets cannot hopefully look forward to the acquisition of a supply of correspondingly luxurious mental furniture—in the absence of which his well-meaning efforts in the direction of auto-diagnosis would, almost to a certainty, prove worse than useless; far less profitable, indeed, than the admirably healthy and appropriate physical exercise cultivated by the kitten in trying to catch its own tail, which, while destined to eternal failure as regards the attainment of its object, constitutes an admirable preparation for the successful catching of mice in the future!

The author has dug down to the fundamental strata of his subject, even its most profound problems and its most remote associations; its physiology and philosophy, as well as its superficial physics and its scholastic ethics. On this account, the volumes before us flash upon us many considerations which reach far beyond our anticipated limitations of his subject. For instance, he finds that "auditory imagery is more prominent in females." and from this view-point is enabled to perceive the solution of a problem which has often puzzled the philosophic observer of nature. "The greater clearness of the mental imagery in the female sex would readily account for woman's greater conversableness, the more intense verbal

imagery finding a more ready expression in articulate speech. We cannot help wondering to ourselves whether Socrates knew about this—or, would such knowledge have made his Xantippe a less efficient training in the practice of every-day philosophy? As was inevitable, our author indulges largely in "definition;" and here we cannot help feeling the absence of the neo-scholastic which might well receive more attention from most amateur philosophers of the present day. However, we regard this work as a praiseworthy and original survey of a very interesting subject.

A Text-book of Physiology for Medical Students and Physicians. By WILLIAM H. HOWELL, Ph.D., M.D., Sc.D., LL.D.; Professor of Physiology in the Johns Hopkins University, Baltimore. Fifth Edition. Philadelphia and London: W. B. Saunders Company. 1913. Demy 8vo. Pp. 1020.

It is a notable achievement for a text-book of physiology to run through a new edition with reprints every two years. Yet this is the record of Howell's text-book, the fifth edition of which has recently appeared.

The work is in every way excellent, thoroughly sound and up-to-date. Many of its articles could not well be surpassed in the space devoted to them. Those on the cause and sequence of the heart's beat and on the production of heat in the body, are particularly good.

The changes in the new edition chiefly concern the metabolism of absorbed food stuffs. This is a branch of physiology which has received paramount attention at the hands of investigators during the past few years. Attention is drawn to the main results of this work. Thus it has been placed beyond doubt that the nitrogen needs of the body can be supplied by the products of completely hydrolysed proteins. The specific properties of proteins in growth and in maintenance have also been more fully studied. The value of these food stuffs in nutrition varies; some, such as gelatin and zein (the

protein of maize), are unable to meet the needs of the body either for maintenance or growth; they are inadequate proteins, the former through lack of the amino acids, tryptophane, tyrosin and cystein, the latter through lack of tryptophane, lysin and glycin.

Other proteins can supply the nitrogen necessary for maintenance, but not for growth. Instances of this class are found in gliadin from wheat, hordein from barley and the proteins of legumes. Still others are "adequate" for both maintenance and growth. These include casein, lactalbumin, vitellin, edestin from various seeds, such as hemp seed, and glutenin from wheat.

In this period also a whole class of substances, to which the name "vitamines" is sometimes applied, has been recognised as indispensable for healthy nutrition. Various types of malnutrition are known to arise from lack of such substances in the diet. Thus beri-beri, caused by eating polished rice, is due to removal of a vitamine contained in the polishings. Scurvy belongs to the same class of malady, its cure being attributed to vitamines contained in fresh vegetables and in lime juice.

Increased attention has also been given to the intermediary products of metabolism of carbohydrates and fats. In the case of the carbohydrates, it is suggested that lactic acid is in all cases a first step in the katabolism of glucose, and the interesting possibility is indicated that through the combination of lactic acid and ammonia alanin may be formed, and thus a building stone may be produced for the synthesis of protein material.

In speaking of the intermediary metabolism of fats, reference is made to the investigations of Knoop, who has shown that the oxidation of fatty acids begins with the hydrogen attached to the carbon occupying the beta position in the chain. This means that in the case of butyric acid, and also of higher fatty acids with an even number of carbon atoms, such as those of the common neutral fats—olein, palmitin, stearin—the oxidation would pass through the stage of β . oxybutyric acid. In health

the oxidation does not stop there, but proceeds to the final stage of CO_2 and H_2O ; but in the condition of diabetes, the tissues lose the power of oxidising both glucose and β . oxybutyric acid, consequently the latter accumulates in the blood and gives rise to acidosis with resulting coma.

Many other minor changes are made, bringing in the results of recent work. In a few important cases this has not been fully done. Thus some of the statements concerning creatin in metabolism require revision, and under the head of the amount of protein necessary for nutrition no reference has been given to the important work of Hindhede. In this section a misspelling of Professor M'Cay's name occurs twice, being given as M'Cabe. But these are insignificant blemishes on one of the best textbooks of physiology that has appeared in any language.

l he Essentials of Chemical Physiology. By W. D. HALLIBURTON, M.D., LL.D., F.R.S. Eighth Edition. London: Longmans, Green & Co. 1914. Demy 8vo. Pp. xi + 324.

NEARLY five years have elapsed since the publication of the seventh edition of Halliburton's "Essentials of Chemical Physiology." This period has been a very active one in Biochemistry, and rapid advances have been made in all branches of the subject. These have been made possible by the introduction of new methods and by improvements in the old ones. It is not surprising therefore to find that this progress is reflected in the new edition of the essentials, and chiefly by the addition of new methods. But it is a matter of no little wonder to see the number of new procedures which of necessity had to be introduced to bring the text-book up-to-date. There is hardly a chapter to which important additions have not been made. It would be wearisome to enumerate all of these, and only a few can be indicated. Thus the additions to the lessons on blood include the benzidine reaction for its detection, methods of estimating the amount of glucose in it, and

the method of Krogh for ascertaining the tension of blood gases. Of those added to the lessons on digestion the more important deal with estimating the activity of the digestive enzymes, such as Roaf's improvement of the fibrin method for pepsin and trypsin; the application of Sorensen's and Van Slyke's procedures to estimating the amount of animo-acid nitrogen eleft off in proteolysis.

The changes introduced in the lessons on urine are more numerous than elsewhere. The Kjeldahl method of estimating total nitrogen is taken from the appendix and properly placed at the head of the quantitative methods for urine analysis. The new methods include the formalin process of estimating ammonia, Benedict's hydrolytic and Folin's colorimetric methods for urea, the colorimetric method of Folin and Macallum for uric acid, and the Benedict method (as modified by Wolf and Osterberg) for estimating total sulphur. The microchemical methods of Folin for total nitrogen, ammonia and urea are also given. One omission under this head may perhaps be indicated: No mention is made of Shaffer's method of estimating ammonia, though it is distinctly preferable to Folin's.

Much other new matter is also introduced. A short account of the vitamines is given. The chapter on the chemistry of nerve degeneration is entirely re-written. A method of preparing cholesterol from brain substance is included. A short article on surface tension, and also one on the electrometric method of estimating the reaction of liquids are introduced into the appendix. Here also are given descriptions of the mercurial air pump and of the differential apparatus for blood gases devised by Barcroft, also of the apparatus of Haldane for gas analysis.

The lessons on blood are rearranged and distinctly improved. It is, however., to be regretted that Haldane's methods for estimating the blood gases are not included.

The book has grown by nearly fifty pages; the number of lessons, however, has not been increased, it has been reduced by one, but more matter is included in them.

The terminology has been brought more into line with that of the pure chemist, thus alcohols are given the suffix "ol" and "glucose" is substituted for "dextrose" throughout.

An important improvement in the printing has been made—heavy type is used for the practical instructions in the elementary course and for the paragraph headings in the advanced part. Altogether the book in its present form is well able to hold its own against all competitors.

Wellcome Chemical Works. Various Pamphlets.

WE have received a number of papers upon organic chemistry and physiological chemistry which emanate from the Wellcome Chemical Works and Physiological Research Laboratories.

They are of a highly technical character and are not suitable for abstraction. They deal with complex organic syntheses—e.g., of Histidin—with the constitution of certain alkaloids: with the relations between chemical constitution and physiological action: the fate of indolethylamine in the organism; the significance of the suprarenal capsules in the action of certain alkaloids: the immunity of guinea pigs to diphtheria toxin; and a method of standardising pituitary extracts.

Plain Rules for the Use of Tuberculin. By R. ALLAN BENNETT, M.B. Lond.: Physician in Charge, Devon County Council Tuberculosis Dispensary, Torquay: Formerly Resident Medical Officer Manchester Hospital for Consumption. Bristol: John Wright & Sons, Ltd. Toronto: The Macmillan Co. of Canada, Ltd. 1914. Demy 8vo. Pp. 48.

THESE rules are certainly plain and brief, in fact so brief that we doubt if they can be of much value to anyone. About twenty-one pages of big print comprise what the author thinks it necessary to communicate, though indeed the addition of some appendices and charts extend the text by some eighteen pages. Having regard to the difficulties that are immediately encountered by anyone who begins tuberculin therapy, we are rather of opinion that these few notes will do more harm than good. Certainly if they lead practitioners to lightly undertake the work without realising the care that must be employed in even the simplest and most straightforward case, the result of their publication will be other than beneficial. The rules themselves, as far as they go, appear to be reliable.

Defective Ocular Movements and their Diagnosis. By E. & M. Landolt (Paris). Translated by Alfred Roemmele, M.B., Ch.B., and Elmore W. Brewerton, F.R.C.S. London: Henry Frowde and Hodder & Stoughton. 1913. Demy 8vo. Pp. 99.

In this small book we have presented to us in a brief way the principal phenomena of what is probably the most difficult side of ophthalmology. It is meant as a guide to the practitioner to aid him in finding his way over the oculo-motor system, one in which it is so easy to go astray. The authors have adopted the scheme of first giving the symptoms and then working out the cause of disease. They think this the more rational method, inasmuch as the patient does not come telling us his disease and looking to us for the symptoms.

To facilitate their end and to avoid repetition the Landolts take the reader over the anatomy and physiology of the muscles and then proceed to deal with ocular paralysis, concomitant squint, paralysis of the symmetrical movements, and affections following lesions of the centres of equilibrium of the body and eyes. By means of very clear illustrations the relations of the nuclei of the nerves concerned with the subject and the cerebral localisation are dealt with concisely. There is a map or plan which shows the position of the false image in the paralysis of each of the ocular muscles when the eye is moved through an angle of 40 degrees.

In the ninety-nine pages of this book one could hardly expect such an intricate subject to be treated so fully and clearly. We consider it a most helpful little guide, and have pleasure in recommending it. The translators are to be commended for bringing so much of E. Landolt's valuable work to the notice of their English colleagues.

A Pocket-Book of Treatment. By RALPH WINNINGTON Leftwich, M.D. Second Edition, Revised. London: Edward Arnold. 1914. Pp. viii + 348.

The second edition of this excellent pocket-book is carefully brought up-to-date, and the busy practitioner will find it a trustworthy and suggestive companion. An astonishing amount of information is fitted into a small space, without any loss of clearness, and the prescriptions are well chosen and free from poly-pharmacy. Reference is facilitated by the indexing of paragraphs instead of pages, and blank leaves are conveniently placed for the owner's memoranda.

WORKS ON UROLOGY.

 Deuxième Congrès de l'Association internationale d'Urologie, Londres le 24–28. Julliet. 1911. Procès verbaux, Rapports et Discussions. Publiés sous la Direction de John G. Pardoe. F.R.C.S. Londres: Adlard & Son. Paris: Masson et Cie. 1912. Svo. Pp. xx + 673.

The Proceedings, Reports, and Discussions of the Second Crongess of l'Association Internationale d'Urologie. Edited by John Pardoe, F.R.C.S.

- The Transactions of the Twelfth Annual Meeting of the American Urological Association. Vol. XII. Brookline. Mass.: The Riverdale Press. 1913. Demy 8vo. Pp. viii + 285.
- 1. The three questions presented by the Council for the consideration of the members, at this meeting in London,

were, first, Phosphaturia and Oxaluria, Dr. A. Hogge (Liège). Dr. P. Richter (Berlin), and Professor J. Teissier

(Lyons) contributed papers.

The second question, the ultimate results of Prostatectomy, was introduced by H. Young (Baltimore), who dealt only with the perineal method of prostatectomy, and gave in detail the results obtained in his extensive practice. He was followed by Professor Proust (Paris). R. Gonzales (Mexico). Professor Tuckerkande (Vienna), and a number of other urologists of world-wide reputation. The general opinion seemed to be in favour of the suprapuble method of prostatectomy; in spite of a slightly higher mortality, it gave better permanent results and was followed by fewer complications than the perineal method.

It seems at the present time that Carlin was justified when he wrote: "Very soon perineal prostatectomy will exist only because of contra-indications of transvesical

prostatectomy."

The third question, extensive resection of the bladder, was fully dealt with by Professor H. Fenwick. Dr. Giordano (Venice). Professor Roysing (Copenhagen) and many others.

Full reports of each question are given in English, French, German, and Italian. The text is clear and is fully illustrated.

2. This volume, as usual, contains a number of interesting papers on urinary diseases. The value of the papers is increased by the discussion following the members' communications being reported in full. While the entire contents of the book are instructive, there is little that is new or has not been dealt with on previous occasions. The case of sudden death, reported as immediately following the injection of collargol solution into the renal pelvis, sounds a warning note, it is probably the first case of this kind that has occurred: as the value of a radiograph of the renal pelvis filled with an opaque solution is a little doubtful, it will be used more cautiously now that it has been demonstrated to be, not free from risk.

The use of the high frequency current, both for bladder tumours and in cases of enlarged prostate, receives a good deal of attention. The book is well illustrated, some seventy photographs and numerous diagrams adding considerably to its value.

Essentials of Prescription Writing. By Cary Eggleston, M.D.; Instructor in Pharmacology, Cornell University Medical College, New York City. Philadelphia and London: W. B. Saunders Company. 1913. Pp. 115.

"This small volume is intended to provide the student of medicine with a succinct, yet sufficient, treatment of the subject of prescription writing. It is designed to carry him through the subject in a sequential manner, and to prepare him to construct a grammatic and proper prescription to fill any need. The work is a crystallization of the author's experience in teaching the subject, and has been prepared with a view of reducing the burden of the already overworked student."

So writes the author in his Preface. He adds, in an introductory chapter: "It has has been my endeavour to carry the student, in a more or less sequential manner, through the several fundamental steps, including the Latin Grammar, up to the construction of a proper prescription, &c."

"Latin Grammar" forms the subject of Chapter II. All goes fairly well until we reach the "Form of Verbs in Use" (page 26). There we read: "Fiat is the third person singular, present subjunctive, of the active voice. It is translated let it make. The pronoun it is understood, and refers to the name of the preparation which is to be made. The name of the preparation is the real subject of the verb, and, as such, is to be expressed in the nominative case. Fiant is similar in every respect to the form fiat, except that it is the third person plural, and is used when the preparation which is to be made is plural, as, for example, is the ease with pills."

We fear that the author is not strong in either Latin or

English grammar. if one may judge from the foregoing quotations. But worse follows—" Fiatur is the third person singular, present subjunctive, of the passive voice. It is translated let it be made. . . . Fiantur is the plural of fiatur, &c." (page 27).

We turned over one more page, on which we found "dat" and "dant" given as the present subjunctive.

active voice, of "do."

Other specimens of the author's Latin grammar are "presse," which he states (page 43) is the imperative from "premo;" "fac talis" means "make such;" "faciendus solutio: "unguentum faciendus est: "fiat massa et extende supra "translated "make a mass and spread upon: "the abbreviation 'Pp. which stands for 'pauperissimus.'"

We cannot conscientiously recommend Dr. Eggleston's work to any medical student who may be desirous of constructing "a proper prescription." so far at least as

it is expressed in the Latin language.

Ionic Medication: the Principles of the Method and an Account of the Clinical Results obtained. By H. Lewis Jones. M.D.. Fellow of the Royal College of Physicians of London: Consulting Medical Officer to the Electrical Department in St. Bartholomew's Hospital: Associate of the Institution of Electrical Engineers. &c. Second Edition. London: H. K. Lewis. 1914. Cr. 8vo. Pp. viii + 155.

So recently as December. 1913, we expressed a very favourable opinion of the first edition of this book. That opinion has been endorsed by the rapid exhaustion of the edition and the publication of a second within the unusually short space of six months.

There is not much change in the work. Certain paragraphs in Chapter L on the Human Body as a Conductor of Electricity have been rearranged. Short additional sections on Pericarditis (with a reference to Dr. Macintosh's case, which was published in the British Medical Journal.

November 8, 1913), on Teno-synovitis (pages 124 and 125), and on the Elimination of Lead from the System (pages 149 and 150) have been incorporated in their appropriate places. In connection with the last subject, allusion is made to Sir Thomas Oliver's article on "The Preventive and Curative Treatment of Industrial Lead Poisoning" in the Lancet, August 23, 1913.

We repeat that there is much food for thought in this book, and we have no hesitation in recommending it as in all respects a satisfactory guide to the novel, scientific and very hopeful practice of ionic medication.

The Road to a Healthy Old Age. Essays, Lay and Medical. By Thomas Bodley Scott. London: H. K. Lewis. 1914. F'cap. 8vo. Pp. viii + 104.

This interesting booklet suffers from the attempt to secure both lay and medical readers. It is, however, suggestive and helpful, and most medical readers will feel that they have taken the symptoms popularly ascribed to "Anno Domini" too lightly, and that it is well worth while trying to avert the inconveniences too often associated with advancing years. The hippurates and adrenalin seem to be favourites in the author's armamentarium, and the more frequent estimation of blood pressure, and the use of vaccines in the bronchial troubles of the old are ably advocated.

Lessons in Elementary Tropical Hygiene for the Use of Pupils in Tropical Schools. By Henry Strachan, C.M.G., L.R.C.P. (Lond.), M.R.C.S. (Eng.), F.L.S., F.Z.S., F.R.A.I., late P.M.O. Southern Nigeria. London: Constable & Co. 1913. Cr. 8vo. Pp. xi + 116.

In his preface to this little book Dr. Strachan sets out as his main purpose "to imbue the inhabitants of tropical countries from *childhood* with a knowledge of the teachings of sanitary science."

With this object in view he gives in the first two lessons a fairly clear sketch of the bacterial origin of disease, avoiding as much as possible all technical terms.

In Lesson III. he points out certain diseases common in the tropics which are bacterial in origin. This lesson is very sketchy in parts, five pages being devoted to tetanus, abscesses and ulcers, whilst consumption, which is so very prevalent and rapidly fatal in native races, is disposed of in eleven lines.

In Lessons IV. and V., after touching on the functions of the red and white blood corpuscles, he goes on to malaria, dealing very clearly with its origin, mode of transmission and the different methods of prevention. This is a particularly good section, and his summary at the end of it is clear and concise, and should be most useful in impressing on a child's mind the main facts.

Lesson VI. is a very short one, dealing with yellow fever, filaria, and sleeping sickness. A little more space might with advantage have been given to these important diseases. Incidentally we note that on page 52 he tells us that sleeping sickness is transmitted by the mosquito. The sentence immediately preceding shows that this is a mere "slip of the pen."

Lesson VII. deals with intestinal parasites, jiggers, &c., and yaws. It might have been better had more stress been aid on the importance of hook-worm disease, since as a cause of ill-health and, directly or indirectly, of mortality, it is in many tropical countries second only to malaria. In dealing with this disease Dr. Strachan speaks of infection as conveyed through the mouth, and only mentions the skin as a secondary route. He has forgotten that Looss's work has proved that the skin route is the only one.

The last five lessons deal with the important subjects air, water, food, housing, clothing, disposal of refuse, &c. They are clear and well written, and show evidence of a practical acquaintance with the habits, needs and faults of the black races.

The book is illustrated by six plates, which might with

advantage be improved. There is no scale of magnification, and some of the natural size illustrations are incorrect—e.g., the hook-worm on Plate V. An average-sized hook-worm is more than twice this size. In Plate II. there is an obvious "printer's error" in the lettering of the white corpuseles.

In spite, however, of the few faults we have mentioned the book should prove a useful one for the purpose for which it is intended. It is written in language such as native children should easily understand, and is printed in large type on good paper.

The Ideals and Organisation of a Medical Society. By Jamieson B. Hurry, M.A., M.D. London: J. & A. Churchill. 1913. 8vo. Pp. 52

A FEW years ago Dr. Hurry published an interesting account of the Reading Pathological Society, of which he has been a member for many years. Like others who have interested themselves in the history of medical societies, he has come to place a high value on their work. Many persons seem to think that the value of such societies is to be judged solely by the number and value of the new contributions made to medical science in their transactions. Any society may be justly proud if it can point to such a record of its work, but no society need necessarily be ashamed if such a record is wanting. As with individuals so with societies, it is only to the few that it is granted to leave their footsteps deeply marked along the sands of time. Though the work of the individual or the society may be difficult to trace in history, it may be that each has done much to help on that steady progress which is quite as essential as the brilliant leaps of genius.

In the little volume before us Dr. Hurry has pointed out the ideals of a medical society. The chief object of such a society is the benefit of its members. If through cooperation in the society the members are made better men and better doctors, the progress of science will be advanced and the welfare of the public will be increased. We could wish that all medical men would keep this idea before them, and remember that they owe it to their fellows if not to themselves, to help by their attendance and criticism the work of their society. We thank Dr. Hurry for having brought this thought before us again, and we trust that his book will be widely read. Anyone interested in the formation of such a society will get many useful hints from the chapter on organisation.

Ambidexterity and Mental Culture. By H. Macnaughton-Jones, M.D. London: William Heinemann. MCMXIV. 8vo. Pp. 102 and 18 Plates.

This little book is an amplification of some articles recently published in the Child, and deals with a subject which is at present attracting considerable attention among those interested in educational matters. It is perhaps one of the most hopeful signs for the future of the race that these matters are attracting such attention. For a very considerable period any one was considered competent to educate children, even though the teachers knew little of the subjects to be taught, and nothing of the proper method of teaching them. If one had a dog or a horse to train it was considered imperative that its training should be entrusted to someone who understood the subject, but anyone, no matter how ignorant, might be given the care of a child. In accordance with this idea the payment of teachers was notoriously bad, and only sufficient to attract those who could not hope to make a decent living in any other way. All this was happening in spite of the fact that we fully recognised that "the little piece of human putty" could be effectively moulded into useful shape only during the plastic period of youth.

We are glad to think that this old order is quickly giving place to better things, and that parents and guardians are learning that the method of teaching is quite as important, if not more important, than what is taught. Starting from the well recognised principle that the brain of the child, like the rest of the body, only

develops in so far as it is used, Dr. Macnaughton-Jones has put forward a powerful plea for the more complete development of the brain than is possible if the child is educated as a one-handed individual. He believes, and brings forward evidence in support of his belief, that if the child is educated as an ambidextrous individual its brain as a whole will be better developed, and this better development will improve the whole mental and moral faculties when the child reaches adult age. At the same time it is shown that there is no ground for the belief commonly prevalent that ambidexterity involves a diminished skill or power in either arm.

We recommend all who are interested in the care of children to study this little book, for we believe that not only will they gain much actual knowledge from its pages, but that its study will stimulate their interest in their work and in their little charges.

Health Preservation in West Africa. By J. CHARLES RYAN, L.R.C.P.I., L.M., L.R.C.S.I., L.M.; Diplomate in Tropical Medicine, University, Liverpool: late M.O. West African Medical Staff. With Introduction by SIR RONALD ROSS, K.C.B., F.R.S., Nobel Laureate, M.D., D.P.H., F.R.C.S., D.Sc., LL.D. London: John Bale, Sons & Danielsson, Ltd. 1914. ('r. 8vo. Pp. xv + 96.

In an appreciating "Introduction," Sir Ronald Ross speaks of Dr. Ryan's "very useful little book on 'Health Preservation in West Africa," which—he adds—" is full of wise hints and of information useful to everyone." Having read the book from cover to cover we are prepared to endorse this favourable opinion.

Sir Ronald mentions the startling fact that old statistics, covering a period of seventeen years, from 1881 to 1897, inclusive, showed a death-rate of 75.8 per thousand among European officials in the Gold Coast, and one of 53.6 per thousand for Lagos. But since then both the death and the invaliding rates have fallen progressively until in 1911

the death-rate was only 13.9 per thousand and the invaliding rate was only 25.2 per thousand, as an average for the whole of the West African Colonies.

While admitting that much of this improvement has been due to public sanitary measures, Sir Ronald considers that much also was due "to the work and the advice of medical men in West Africa, such as Dr. Ryan, who have spared no effort to persuade Europeans there to do their best to protect themselves against the ever-present infections which caused such havoc among their predecessors."

This tribute to the work of the West African Medical Staff is as well deserved as it is gracious, coming from such a source.

Dr. Ryan's book contains four chapters and an illustrated appendix. The first chapter gives an outline description of the more common tropical ailments—namely, malaria, blackwater fever, yellow fever, filariasis, dysentery, diarrhœa, ankylostomiasis, guinea-worm, sleeping-sickness, plague, chigger disease, sunstroke, prickly heat, dhobie's (laundryman's) itch, tinea versicolor, and boils.

The preventive measures to be adopted in the case of each of the foregoing ailments are set out in Chapter II., which is brimful of useful information, almost entirely based on the author's personal experience.

"Camp Sanitation" is the subject of Chapter III.. and here again the author is quite at home in giving sound advice.

Chapter IV. deals with dietary, the bath, exercise, and treatment. Under the heading "Alcohol" we read: "A teetotaller need not alter his ways while sojourning in West Africa, neither is it necessary for a temperate drinker to become an abstainer. Unrestricted consumption of alcohol is certain, however, to have a rapidly deleterious effect. A man who allows himself a too liberal supply should not be surprised if he falls a prey to diseases in their most virulent form " (page 74).

The book concludes with miscellaneous notes intended

to assist those who require information concerning some of the sundry items comprising a tropical outfit. They partake somewhat of the nature of an advertisement of certain well-known firms and preparations—an advertisement, however, which under the circumstances seems to us to be legitimate.

The Operating Room and the Patient. A Manual of Preand Post-Operative Treatment. By Russell S. Fowler, M.D., New York. Third Edition. London and Philadelphia: W. B. Saunders Company. 1913. Demy 8vo. Pp. 611.

This well known volume bids fair to become a standard work. The new edition has several important additions, which add greatly to its value.

It would be well if every student, nurse, and operating surgeon had this book at their immediate command, as it gives very clear and concise information about practically all that pertains to the treatment of patients.

This type of book will surely in time replace the older operative surgeries, which dealt largely with ligature of vessels and amputations. In fact, if students were expected to really know the elements of operative surgery, instead of major operations it would be a great gain to the profession.

Explanatory Lectures for Nurses and their Teachers. By H. HAWKINS-DEMPSTER. Bristol: John Wright & Sons. Ltd. 1913. Pp. xi + 224.

THERE is a wide margin between what a nurse should know and what she may with advantage know, but the nurse who tries to master these lectures as printed will burden her memory with much she can at best badly understand, and for which she will find little use.

To the lecturer who has to teach nurses this book may be useful, and some of the numerous "comparisons, analogies and similies" may be suggestive. These are, however, not always correctly reasoned out. For example,

on page 120 we read :-

"The difference between asepsis and antiseptics might be expressed by the difference between a successful opposition to the entrance of a murderously disposed robber, and the knocking him over when he has found his way in: whilst sepsis might stand for the wretched householder hopelessly assaulted by the robber."

One would prefer to think that the murderously disposed robber was sepsis: if, however, the householder is sepsis,

the M.D.R. seems to be justified!

The four elementary ambulance chapters at the end are out of place, and might with advantage be omitted.

Physics. An Elementary Text-book for University Classes. Third Edition, thoroughly revised and amplified, and containing an entirely New Chapter on the Electron Theory and Radio-activity. By C. G. KNOTT, D.Sc. (Edin.), F.R.S.E.: General Secretary of the Royal Society, Edinburgh: Lecturer of Applied Mathematics and Physics (Medical) in the University of Edinburgh: formerly Professor of Physics in the Imperial University, Tokio, Japan. London: W. & R. Chambers, Ltd. 1913. Cr. 8vo. Pp. iv + 370.

The unprecedented velocity of advancement of physical science during the past century has unquestionably constituted one of the most distinctive features of the most progressive of the epochs of recorded history. We use the term "velocity" advisedly, as more truly descriptive in this connection than the old-time "march" or "progress." And we would here add, in all true relevancy, that one of the most distinctive features of the present-day medical education and requirements is a familiarity with the fundamental facts of mechanical and physical science, which were assuredly extraneous matter as regarded the mental upholstery of the average medical student and practitioner of former generations. The existence of the volume before us is strong testimony to the existence of an onward movement in the right direction,

towards a territory which surely overflows with intellectual milk and honey of the sweetest savour and of the most nutritive properties. That the University of Edinburgh caters for the intellectual sustenance and growth of a very large section of each rising generation, not merely of the citizens of the British Empire, but of the brotherhood of our cosmopolitan civilisation, is a fact too firmly established and too widely known to call for critical discussion on such an occasion as the present—a fact, we may remark in passing, is impressively illustrated on the title page of the volume before us, from which we learn that the author has in turn occupied the teacher's chair in the Far-Eastern University of the metropolis of the still mysterious Japanese Empire, and in that of the Caledonian capital from which he graduated in his own scientific specialty.

The work, which has reached a third edition within a relatively small number of years, may be safely regarded as having soared beyond the damaging range of the shafts of the critic, however legitimately or skilfully aimed. The great distinctive feature of this new issue is the addition of a new chapter on The Electron Theory and Radio-activity. And as the work was composed with the special object of providing "for the use of junior students, and more especially medical students in their first year of study, a text-book on Physics, neither too large nor too elementary," we can well afford to congratulate the undergrads of the Medical Curriculum of the present day on the smoothness of the ways thus opened to them in their pursuit of the mysteries of physical science—while recalling, with unavoidable bitterness, the contrasted ruggedness of the thorny and jagged paths along which we were ourselves obliged (and surely through no fault of our own) to scramble upwards in the endeavour to reach the great storehouse of the scientific harvest, of which the doors are here held widely open for the entrance of every intelligent visitor. We readily admit, to the confidence of our brother and sister medical students, a revelation of the fact that we ourselves read the last (new) chapter first, as we have so often longed to see presented within reasonable

limits a clarified reflection of the deplorably muddy and bewilderingly entangled facts and suggestions and surmises and speculations, and attempted reasonings, which are usually dished up for the mystification of the average—not necessarily unintelligent—inquirer after the data supplied by the New Knowledge: and noisily, if not always intelligibly, disseminated (or promulgated) by the Evangelists of the doctrines of the same.

Scrofulosis. By Prof. Dr. G. Cornet. Berlin and Reichenhall. Translated from the Second German Edition, by J. E. Bullock, M.D., Assistant Medical Officer, the Eversfield Chest Hospital, St. Leonards-on-Sea. London: John Bale, Sons & Danielsson, Ltd. 1914. Large 8vo. Pp. xii + 515.

This is a very readable and interesting contribution to the oceanic reservoir of recorded theory and fact, and faith and doubt, and sense and nonsense, which has been sluiced all over the quasi-scientific literature and progressively cheapening journalism of Christendom and of civilisation ever since "Koch's epoch-making discovery" of the Bacillus tuberculosis. This dazzling revelation of the physical and vital properties and specific parasitism of the veritable causa causans of the dread white scourge threw very much light, indeed, into very many of the previously dark corners of the wide domains of tuberculosis and scrofulosis—a light which we feel bound to add, regretfully as well as parenthetically, did not fail to have a proportional blinding effect on many of the most selfestimating of the representatives of clinical investigation and practical therapeutics. No intelligent citizen of the British or other civilised Empire can fail to take a present interest in the progress of the great war which is now being conducted against one of the most destructive enemies of the human race, or depreciate the value of the facts which form the search-lights of our crusaders and the weapons of their progressive attacks.

The author of the present volume has evidently taken

up his task con amore, and spared neither time nor trouble in the collection and arrangement of his facts. Although he does not dogmatise on the subject of the mutual relationship of tuberculosis and scrofulosis, he expresses the hopeful view that "the differentiation of tubercle bacilli of human and bovine extraction has contributed to make many phenomena intelligible which hitherto have been unexplained." Thus we find ourselves located in a scientific environment in which the saving dogmas of bacteriological pathology are accepted with the unquestioning faith due to the plenary powers of its irresistible grace. Dr. Bullock starts from an "Introduction" which points out that: "Although the discovery of the tubercle bacillus has created a true conception of the nature of Tuberculosis, on which to construct a sure diagnosis and etiology of the disease, opinions as to the nature of Scrofulosis are still widely divergent: " whence he proceeds to open the labyrinthine treasure-house of his general text-after an instructive note which deals with "Distribution"—with a very interesting "Historical Survey." This arrangement is surely as it should be. We have ourselves long held that as Medicine still remains a congeries of conglomerated facts and coagulated opinions from the mass of which only the skilled expert can select the material weapons and modes of attack which can be effectively utilised in his clinical attacks on invading disease, no physician can truly be regarded as reliable in the performance of his sacred duties, far less an expert in his clinical strategy, who has not the pathway of his practice continuously enlightened by the reflected illumination which is derivable only from the records of the successes and failures of the clinical means and methods of the past. For the seeing eye cannot fail to discern that the only really effective, or approximately antidotal. remedies that we possess were originally introduced through the by-paths and loop-holes of empiricismpace the comprehensive claim of coal-tar chemistry and of thermo-electro-magnetic physiology.

We are told at the outset that the word Scrojula comes

to us etymologically through the Latin from the Greek. a fact which we felt prepared to admit: but we felt that the giving of Virchow's name as the authority for its original connotation of "a voung pig" suggested a devious effort of supererogation in the use of the name of the famous pathologist. We next read of the suggestions which have been supposed to explain the etymological inspiration: the resemblance to the contour of the pig's neck produced in the human victim of extensive cervical scrofulosis: the abundance of the glands in the pig's neck: the fact that pigs frequently suffer from the disease themselves: or that of the specimens of cervical adenopathy in the human being forming a numeral series suggestive of a sow's litter. Also—and still more suggestive of the structural capabilities of a creative poetic fancy— "with very little claim to probability," the term has been derived from the Greek name which distinguished "the rocks at Tarentum, the glands of the neck in the scrofulous being considered as irregular as the rocks in the Straits of Tarentum." We find no suggestion that the name has been derived from the assumption or suspicion of the pathological process having been transmitted to the human being by the eating of the curiously-suspected and much-libelled flesh of the swine, to which some ritualistic pathologists would have attributed the origin of that other most cosmopolitan plague of lues renerea. Dr. Bullock quotes the formula used in application of the Royal Touch for the cure of "King's Evil: ""Le roi te touche, le roi te guerit." We believe that the "le roi" of the second clause could here be replaced by "Dieu" -- with marked improvement in the direction of accuracy. He dwells on the first decided opposition made by a great scientific pathologist to the general view previously held of the identity of tubercle and scrojula. This came from Virchow, and, as might well be anticipated from the association of such a name, it soon seemed that it had come to stay. As a truly orthodox representative of modernistic clinical science should. Dr. Bullock recognises, and founds his own clinical and pathological edifice on, the fact that:

"After the discovery of the tubercle bacillus by Koch we became possessed of a sure criterion as to the tuberculous or non-tuberculous nature of scrofulous affections." And the net result derivable from the results of the elaborate investigations of leading authorities is supplied in this recapitulation: "In case of scrofulosis, when dealing with caseating glands, bone and fungous joints, lupus, and scrofuloderma, and the scrofulides to be discussed later. tubercle bacilli could nearly always be found, thus the tuberculous nature of the affections is assured. On the contrary, the skin diseases which are reckoned as scrofulous, and are characteristic of it, as a rule contain no bacilli except those just named, for example, eczema, impetigo, diffuse catarrh of the mucous membrane, ozæna, &c.; they also produce no tuberculosis by injection and are at the same time not of tuberculous nature, but are caused by pyogenic bacilli." The reader cannot here be under any mistake regarding our author's bacteriological orthodoxy!

The opening paragraphs of the second chapter conduct us to a firm landing-step from which we can proceed to examine the multiplex "claims" that have been roped in by the many, many surveying and sapping and mining experts who have brought the investigation of the rugged and murky domain of scrofulosis to its present state of well defined lights and rights, of limitation and ownership, respectively. There we learn that: "Originally associated with a single symptom (the swollen neck glands) its significance has, during the last century, been much extended. In the sense now accepted scrofulosis comprises a complex of symptoms almost entirely confined to childhood and early youth; such are on the skin and various mucous membranes: lupus, scrofuloderma, lichen, tuberculides, eczema, impetigo, chronic blepharitis and phlyctenulæ, middle-ear disease, chronic catarrh of the air-passages, rhinitis, pharyngitis, bronchitis, hyperplasia of the tonsils, catarrh of the alimentary canals, and lastly, certain affections of the bones and joints." And those affections "are distinguished from other non-scrofulous phenomena of the same kind "by the great characteristic

features of: Persistency; Frequent Recurrence; and Multiplicity. The broadest doorway to discussion is thus opened up, and the author introduces many side lights which prove in the method of their presentation that he has laboured hard towards the acquisition of a controlling view-point. The net result is clearly enough presented with the statements contained in the following sentences:— "The individual tendency was first made responsible for the rare infection from tuberculous milk till Koch showed the difference in the virulence of the exogenous factors of bovine and human bacilli. The theory which is very much advocated, that simple hyperplasia of the lymph-glands must prepare the ground for the tubercle bacillus, can only rest on the fact that hyperplasial or tuberculous processes are found together in the glands. This state of things can be easily explained; in consequence of peripheral lesions, doors are opened by which all kinds of bacilli can enter the glands, and that pus cocci enter sooner and oftener than tubercle bacilli." We would here suggest that the author thus exposes, in the last sentence quoted, a chink which is distinctly suggestive of a doorway leading in the direction of a pathological future; which may explain the relative position and influence of inherited structure, inflammatory (and other circulatory or neurotic) modifications of the same, and the consecutive invasion of the conquering microbes, the claims for whose primordial genetic influence as the real producers of disease are, even now (!), regarded by the stiff-necked few who follow the heretical pathway to the left, as no better than undiluted (as well as wholly illogical) nonsense.

Transactions of the American Otological Society. Forty-Sixth Annual Meeting. Vol. XIII. Part I. New Bedford, Mass. 1913. 8vo. Pp. 252.

DR. Hudson-Makuen, in a paper on "The Prevention of Deafness," gives a very good classification of inherited and acquired deafness, and adds that many cases included

under the latter term are really the result of congenital conditions, which lie dormant in some instances for many years.

In connection with the prevention of hereditary deafness, he states that one effective measure of prevention would be that, instead of educating the deaf in large residential schools (this applies with greater force to America), there should be special day-school instruction, as this would be more likely to prevent marriages between deaf persons, and would also have the additional advantage of keeping the deaf in closer association with hearing people during their educational career.

As regards prevention of acquired deafness, Dr. Makuen is of opinion that it is preventable in the great majority of cases by a stricter application of well-known remedies. He states that "our modern surgical treatment of adenoids is probably the best procedure yet devised for the prevention of acquired deafness, but it could be made far more effective by doing the operation earlier, and by making it more general and more thorough." Also, he recommends a thorough examination of the ears of very young children, and earlier treatment of conditions which are known to result in deafness if not dealt with during their inception.

Dr. Berens records a case of abscess in the frontal lobe of the brain which was apparently due to ear trouble. He has collected a full series of cases, numbering forty-nine, of abscesses in this situation, and in none of these was the origin of the disease found in the ear: he therefore thinks it worth while to record this case, as it presented several points of interest, including symptoms pointing to intracranial pressure, and there being no indication as to its source.

Dr. Bryant reviews the conditions under which an operation on the mastoid should be performed, and heads his paper "The Protective Mastoid Operation," on account of his belief that it should be more frequently performed in cases for the prevention of further trouble than merely to save the patient in the last extremity from

intracranial complications. He considers that "an appreciable interval between the inception of the middle ear suppuration and the performance of the protective mastoid operation should be allowed in order to justify our conclusion that, in the case under consideration, the suppuration will not stop without a protective operation or in time to save the hearing, and also that the danger of serious complication is imminent."

The special point about his operation is that he avoids curetting the middle ear proper, but opens the antrum widely and removes the anterior attic wall and the contents of that cavity; he prefers that the Eustachian tube should remain open, and does not hinder the restoration of a cicatricial drum membrane. From the above it will be seen that this varies very considerably from the usual radical mastoid operation, and inclines more to that of Heath as done in this country.

His paper is well worth reading, as it clearly explains the difference between the various operations, and the suitability of the different forms of cases for each undertaking.

Dr. T. J. Harris, in a paper entitled "A Brief Consideration of Certain Recent Views regarding Otosclerosis," gives a very interesting risume of the history and the various opinions expressed and now held by observers in regard to this disease. The very painstaking work done by some observers, notably Denker, in observing cases during life and then getting sections of the labyrinth after death, has provided us with a very clear conception of the actual pathological changes which may be described in two words—" spongifying bone." Dr. Harris lays stress on the fact that it is often difficult in a case presenting itself for diagnosis to be quite certain whether indeed the stapes is actually ankylosed or whether it is a case of firm fibrous adhesion, since if the latter is the case treatment will benefit. On the other hand, when the spongy growth is gradually invading the cochlea, the transition stages are often difficult to determine, though once the nerve deafness is pronounced, there is no further doubt. goes into the question of the ætiology, but though the

actual condition of bone absorption and subsequent formation is easy to demonstrate under the microscope, the cause of this process being set up in the ear is by no means clear, and much work in this direction will still have to be undertaken.

Dr. Shambaugh deals with the question of "When the Labyrinth should be Operated on in Infection secondary to Purulent Otitis Media," and inclines to the view which is held in Ireland as opposed to the usual London view, that waiting in these cases often produces better results than immediate operation, as many of the cases terminate most favourably without complete destruction of the labyrinth, and, even though there is complete loss of function, the life of a patient may not be endangered.

Dr. Dench reports three cases of meningitis following on purulent otitis, in which he drains the cisterna magna, and though the operations were successfully performed, the results did not seem to correspond to expectations, and have not encouraged him to proceed much further.

The Pocket Anatomy. Seventh Edition. Revised and Edited by C. H. FAGGE, M.B., M.S. Lond., F.R.C.S. Thirty-seventh Thousand. London: Baillière, Tindall & Cox. 1914. F'cap. 8vo. Pp. iv + 307.

This really excellent little *vade-mecum* long ago so established its position in the world of medical education that any display of the mental energy or scientific attainments of the carping critic would glance off ineffectively, even when skilfully directed; while it would surely rank as impotent ill-nature if used without such very necessary expertness.

The little volume is admirably suited to the pocket, and can accordingly be utilised by the student on holiday, in the railway carriage, in the taxi-cab or motor-bus, during his rests in the process of hill-climbing (or mountaineering, if he likes practising the superlative), and even on the motor—when not himself "at the wheel"! No higher practical quality can be achieved by the publishers of such a volume, than that of making

the product so readily available by those for whose special benefit it was designed and constructed. Meet it is that the booklet should be issued by the eminent firm of Messrs. Baillière, Tindall & Cox, a publishing house which has done at least as much as any other of the present generation to popularise the very best quality of student's reading, and of practitioners' store of reference—some of the more conspicuous items of which, we are glad to say, are the productions of Irish authors. We have no hesitation in foretelling a rapid sale for the present delightfully convenient pocket companion of the anatomical fledgeling.

The Dublin University Calendar for the Year 1913-1914. Vol. II. Dublin: Printed at the University Press. Hodges, Figgis & Co., Ltd., 104 Grafton Street, Publishers to the University. 1914. 8vo. Pp. iv + 309.

As in past years the second volume of the Dublin University Calendar contains lists of the Honours and Prizes awarded during the academic year in Arts and in the different professional Schools of Trinity College.

One turns with interest to the statement as to the present numerical strength of Trinity College which is summarised at page 109. The total number of students on the College Books under the degree of M.A. is as follows:—Women—Xon-foundation Scholars, 14: Pensioners, 195; Sizars, 2—total, 211. Men—Scholars of the House, 70: Pensioners, 965; Sizars, Ex-Sizars, and Sizarship Exhibitioners, 39—total, 1,074. The grand total is 1,285, or 10 under the corresponding number for the previous year—1,295. The falling off is in men pensioners—965 compared with 986. The number of womenstudents rose, on the contrary, from 200 to 211.

There is an extraordinary falling off in the number of University Electors as compared with the previous year—4,161 as against 5,048. This may be due in some measure to a stricter revision of the list, but it certainly calls for explanation,

PART III. MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Walter G. Smith, M.D., F.R.C.P.I. General Secretary—J. A. Scott, M.D., F.R.C.S.I.

SECTION OF STATE MEDICINE.

President—T. Percy Kirkpatrick, M.D., F.R.C.P.I. Sectional Secretary— W. A. Winter, M.D., F.R.C.P.I.

Friday, January 16, 1914.

THE PRESIDENT in the Chair.

President's Address.

The President's Address, which was illustrated by lantern slides, dealt with the origin of some of the existing Dublin hospitals. It was published in the number of the Journal for February, 1914 (Vol. CXXXVII., No. 506, page 98).

Admissions to the Westmorland Lock Hospital, Dublin, since the year 1860.

Dr. Pugin Meldon read a paper on this subject. He illustrated his remarks by charts, showing the yearly admissions, and also the diseases. The decline in the number of admissions he attributed chiefly to three causes, namely—less acute symptoms, closing of irregular houses in the city, and change in the type of prostitute. He also showed tables of the birth-places of the patients, and closed his

paper by giving a rough estimate of the number of prostitutes in the city, calculated from the admissions of the past twenty years. [Dr. Meldon's paper appeared in the number of this Journal for February, 1914 (Vol. CXXXVII., No. 506, page 109.]

Dr. Henry Moore urged the necessity for this Section of the Academy laying its views before the Royal Commission at present sitting to inquire into the subject of venereal disease. He referred to the fact that the terms of reference excluded the consideration of the conditions under the Contagious Diseases Act. It was pointed out that a number of bodies had taken on themselves to forward suggestions to the Commissioners. The suggestions offered by one body were reviewed by the speaker and were stated by him to be of little use in stopping the spread of the disease.

It was pointed out that the principal source of venereal disease was the prostitutes, and that unless something was done to stop the disease amongst them and make them come up for treatment energy would only be wasted. In his opinion every medical body ought to express their opinion very definitely on the subject—that is, to the effect that unless the source of the disease is tackled it cannot be stopped. He suggested to the Council of the Section that the matter should be looked into. Another matter of importance was that general hospitals should be called upon to undertake the treatment of syphilis and gonorrhoa, as otherwise students cannot be expected to be acquainted with the diagnosis and treatment of such affections. He expressed the opinion that the General Medical Council ought to be called upon to refuse the certificates of any hospital that did not admit venereal cases.

DR. Matson said he thought that the incidence of the disease was decreasing. He was struck by the objections which some respectable women who had contracted the disease had to go for treatment to the Lock Hospital. His view was that this hospital should be looked upon as the proper place for treatment of every woman so suffering. He considered that a patient suffering from this condition was just as deserving of relief as one affected with any other illness. His experience was that those patients who had been treated at the Lock Hospital always seek treatment afterwards when there are manifestations of a recurrence

of symptoms, but that they go to other hospital dispensaries rather than to the Lock hospital knowing that they will receive treatment as out patients and will thus not be enclosed. He pointed out that in Dublin there was a large number of women known as "Privateers" who spread infection much more than the regular prostitute. The question of notification could not be gone into as the terms of reference of the Commission barred it. He mentioned that the increase of venereal disease in Liverpool was found to be enormous after the repeal of the Contagious Diseases Act.

Dr. Rowlette said that accurate statistics on the subject were most necessary, and if notification could give accurate statistics he thought the profession should declare in favour of notification, but it seemed to him that as a preventive of the disease notification would be the worst step that could be taken, as it would, he considered, put a barrier in the way of early treatment. If a patient suffering from venereal disease had to be notified he thought the result would be that he would not seek treatment until forced to do so. He considered notification a most dangerous step, and expressed the hope that the profession would be opposed to it. He suggested that if each medical man was asked to make a return of cases treated by him without giving any names some help might be given, although he was alive to the fact that in this way there might be overlapping by the same patient consulting different doctors.

The President said that any return to the Contagious Diseases Act was not only unlikely, would be unsatisfactory, but was absolutely impossible and outside practical politics at present. He did not think that the notification of infectious diseases had proved the great panacea which the Public Health Authorities would have us believe. He agreed with Dr. Rowlette that any form of notification of venereal disease would tend rather to increase the disease than diminish it. He looked forward to early and accurate diagnosis to diminish the disease. He considered that every medical man should have at his disposal the latest scientific methods for making accurate diagnosis, and this he believed would do more to stamp out the disease than anything else. His experience was that men were not adverse to treatment,

but that there was some difficulty in getting them to continue it sufficiently long. But, provided an early and accurate diagnosis could be made, he thought that much could be done to stamp it out at all events in men. He did not consider there was any great change in the severity of the disease.

Drs. Day, Nesbitt, Crofton and Winter also spoke, and Dr. Meldon then replied.

SECTION OF MEDICINE.

President—J. F. O'CARROLL, M.D., F.R.C.P.I. Sectional Secretary—F. C. Purser, M.D., F.R.C.P.I.

Friday, January 30, 1914.

THE PRESIDENT in the Chair.

Juvenile Muscular Dystrophy.

THE PRESIDENT showed a boy, aged sixteen, who, up to June 1913, was in good health. Going to school in that month he got several wettings and sat in his wet clothes. Towards the end of the week in which this occurred he noticed stiffness when getting up from his bench. After about three months feebleness in walking ensued. For this condition he came for treatment. No weakness was then complained of in his upper limbs. There was not much to be seen in his lower limbs. The muscles of his shoulder girdle were considerably shrunk. His wrist and fingers were stiff, but could be extended, though with some pain. The hands showed muscular failure of the palm, thumb, and little finger. There was no defect in sensation. Almost all movements could be performed, but with diminished power. It was also noticed that he had a little palatal paralysis. was one that suggested juvenile dystrophy, but there was nothing positive about it. The fact that the patient had slight palatal paresis pointed to the possibility of the condition being somewhat more than mere primary muscular trouble.

Anterior Poliomyelitis.

Dr. G. Peacocke showed a man suffering from this condition. He had been affected at the age of forty-five. The lower limbs were affected, and showed the various phenomena characteristic of the disease when fully developed.

DR. ELLA WEBB inquired if anything was known as to the prognosis in these cases when they occurred in patients at an advanced age. In her experience of the condition occurring in young children the prognosis turned out better than the text-books would lead one to believe.

Dr. F. C. Purser discussed the question of how long cases of anterior poliomyelitis remained infectious.

Fatal Anæmia.

Dr. Peacocke read notes of a case of the above that occurred in a man aged forty-three years. His symptoms dated from February, 1913, when he suffered from pain after food, vomiting, weakness, and anæmia. Under treatment these symptoms almost entirely disappeared, but after a time returned. He first came under observation in August, 1913. His symptoms then were vomiting, with absence of HCl. in stomach contents, obstinate constipation, great muscular weakness, feeble action of heart, dark pigmentation of skin of abdomen and chest, severe anæmia of a secondary type. He gradually became weaker, and died on December 2. His temperature was irregular, but never exceeded 100°F. No tumour could be felt in the abdomen, the walls of which were markedly rigid. Heart and lungs normal. Post-mortem revealed no evidence of disease.

In the absence of any malignant disease or disease of the adrenals, was this a case of pernicious anæmia, although the blood examination showed a low colour index—.5—and there were no changes in the erythrocytes except some poikilocytosis? [This case is reported in full at page 175.]

Dr. Nesbitt said he felt rather disappointed at the result of the *post-mortem*, as he expected that the case would have been found to be one of Addison's disease, particularly when there was such marked pigmentation.

Fatality from Salvarsan.

DR. NESBITT reported a fatality after 0.4 grm. salvarsan intravenously in a poorly-developed man of twenty-five, the

subject of syphilis, either congenital or acquired early in life. [His paper will be found at page 169.]

Dr. H. C. Earl, in showing the pathological specimens in connection with the case, said the most striking organ was the liver, which contained numerous gummata, both large and small, of which sections were shown under the microscope. The larynx showed on the epiglottis a mucous membrane which was a good deal thickened, but not ulcerated. The kidneys appeared normal, but a good deal congested. In the upper portion of the spine the third, fourth, and fifth cervical vertebræ were necrosed. The laminæ was removed and the cord seemed unaffected, and the dura-mater was unaffected. The heart was healthy. The brain was not obtained.

Dr. Meldon said he listened with interest to the paper, as at the Lock Hospital a good number of cases were treated with salvarsan, and a great many of the patients were in a shaky condition. He suggested that the first point to be attended to was to have the alimentary canal thoroughly cleared out, as otherwise the reaction would be found to be very much greater. He would have been diffident about giving a dose of salvarsan in such a case as Dr. Nesbitt's on account of the dyspncea. In a doubtful case he thought it best to first put the patient on mercury and iodide of potassium, in order to destroy as many of the spirochætæ as possible, and thus lessen the reaction afterwards. He considered it was rather soon to expect arsenic poisoning, and thought it must have been some vital process. He suggested that in these very bad cases the risk was well worth taking.

Dr. O'Kelly thought it was of the greatest importance that such cases should be reported. He did not know if the brain had been examined, but he would be suspicious of some lesion in the case.

DR. LILIENSTEIN (Germany) recalled the case of a patient aged fifty-two, who died in one hour after an injection of salvarsan, and mentioned that in that case the patient showed evidence of marked arterio-sclerosis. In another case the patient developed a complete paraplegia, after salvarsan, and died of pneumonia.

Dr. Henry Moore said apropos of a cerebral cause of death that it was Ehrlich's idea that all local lesions, within twelve hours after injection, swell up enormously, and during this swelling if there was any syphilitic lesion in the brain it would cause compression and kill the patient, but he expected in this case the dangerous period from this point of view had passed. He had never seen a liver showing so many gummata.

DR. NESBITT said he was glad to hear that it was the opinion of the members of the Section that blame did not attach to him for the administration of the drug in this case. He did not consider the patient very dyspnæic. The brain was not examined, as it did not occur to him that the patient died from nervous or brain involvement. There was no loss of consciousness, paralysis, or anything of that sort. There was no arterio-selerosis. Although he had always used distilled water he had always experienced smart reactions.

Phlebostasis.

Dr. Lilienstein demonstrated to the Section his apparatus for producing phlebostasis, and detailed its uses in cardiac disease.

SECTION OF OBSTETRICS.

President—M. J. Gibson, M.D. Sectional Secretary—Gibson FitzGibbon, M.D., F.R.C.P.I.

Friday, February 6, 1914.

SIR WILLIAM J. SMYLY in the chair.

Fibro-Myoma.

SIR WILLIAM J. SMYLY, in showing the specimen, said it was removed from a girl aged twenty-one on whom he had been asked to do an ovariotomy. He did not see the patient until the time of the operation on the 27th of January, but he did not think he could have made a correct diagnosis even had she come under his observation sooner. When the abdomen was being prepared he felt something like a soft flaccid cyst. On opening the abdomen the uterus and ovaries were found to be healthy. On the right side was the tumour which was shelled out of the broad ligament.

Although it was cyst-like in appearance on a knife being inserted nothing came out. The tumour was entirely intraligamentous except a very small part which was embedded in the right wall of the uterus. The case was interesting from the point of view of diagnosis, and also on account of the youth of the patient. He had never seen such a large myoma in a girl at such an early age. The pathological examination showed the specimen to be a myoma.

Dr. FitzGibbon said he regretted not having brought down a specimen of myoma which he had recently removed from a patient aged twenty-nine. The tumour felt cystic, and on its removal proved to be so. He had considerable doubt when the case was first seen as to whether it might not have been a pregnancy, but after three weeks observation it was decided to operate. At the time of operation he felt that there was considerable risk in not removing the whole uterus, but an examination of the specimen proved it to be non-malignant. One of the difficulties in these cases was the diagnosis, but a greater difficulty was to decide whether the tumour was sarcomatous or a fibroma. He suggested that a second operation would meet the case if the tumour turned out to be a sarcoma, and, therefore, one should do a myomectomy first.

Laceration of the Perinaum and its Operative Treatment.

Dr. Hastings Tweedy read a paper on the above subject. [It will be found at page 161.]

DR. FITZGIBBON said the subject was one of considerable importance to those practising obstetrics, and if attended to there would be much less gynæcology in the form of old lacerations. He agreed with the view that it was of importance to lift the tongue of mucous membrane towards the vagina and away from the anus. It was his practice to suture the perinæum while the patient was in the lateral position, and before the placenta came away, as at that time the anæsthesia was generally sufficiently deep to permit of doing so. He considered that an approximation of tear could be made just as well in the lateral position as any other, provided that it did not extend very far into the vagina. He suggested that in the left lateral position a tear in the left lateral sulcus could be seen, but for right side tears the

dorsal position was necessary to expose the tear fully. For the majority of tears he thought that the lateral position afforded quite a satisfactory view and enabled them to be repaired efficiently. He preferred silkworm gut on account of its non-absorbent qualities, and looked upon it as an advantage to have sutures which would not absorb lochia and carry the discharge into the wound.

Dr. Jellett said that the paper was a most practical and interesting one. He did not, however, consider that one could appreciate the extent or importance of tears extending up the posterior vaginal wall unless the patient was in such a position that this wall could be clearly seen. He did not think that this was possible while she was in the lateral position. Repairing by sutures passed from the perinæum alone, with the patient in the lateral position, had a tendency to leave a tear of the posterior vaginal wall unstitched, so leaving a pouch communicating with the vagina. Even if the perinæum suture entered the levator ani muscle, it might very easily miss such part of the vaginal tear as lay above the muscle. He considered that the dorsal position was the most suitable for almost every part of obstetrical work, including normal labour, and pointed out the tendency in the practice of the Continent and cf America to substitute the dorsal for the lateral position. He considered that it was quite easy to maintain the patient in the dorsal position for the purpose of suturing the perinæum, or other reason. He did not quite understand Dr. Tweedy's reference to expensive apparatus. He also showed drawings of an operation to illustrate the repair of chronic lacerations of the perinæum, and called particular attention to the necessity for suturing the levator ani muscle separately. He had been performing this operation for the last six or seven years, and had quite abandoned the old Lawson Tait operation. There was not the least doubt that in the operation he described the levator ani muscle was sutured. and not, as had been suggested, one of the more superficial and rudimentary muscles of the perinæum.

Dr. Solomons said it seemed to him that the most important part of the paper was that dealing with the repair of the perinæum primarily, as that operation concerned a greater number of practitioners than the secondary operations which concerned but few in comparison. He thought it

necessary that the best way for sewing the ruptured perinæum after birth should be determined conclusively so that patients might be left as well before their confinements as afterwards. He inquired what Dr. Tweedy meant by "support of the perinæum before the blood comes," as it had been his experience that the latter often occurs while the head is still far up in the vagina. With regard to the question as to position he always adopted the lateral except where the vagina was torn very high up and required catgut sutures. He looked with disfavour on catgut in ordinary tears of the perinæum and always used silkworm gut.

Dr. Madill said he was particularly interested in the part of the paper which referred to recent lacerations, but was sorry that tears of the anterior wall were not touched upon. Regarding the classification of tears he suggested grouping them as—slight tears, large tears, and complete tears. The first heal uniformly, but he found the large tears did not heal up in many cases. Whether this was due to the use of catgut or not he did not know, but why they should not heal up if the operation is fairly aseptic he was at a loss to understand. He considered that there were objections to suturing lacerations in the second stage which more than counterbalanced the advantages. It was better to wait till the placenta was away before suturing.

DR. MCALLISTER said to him a most interesting part of the paper was that dealing with old lacerations. As the result of work which he had taken part in last year, and of operations which he had seen, he considered that in those procedures where the muscles of the pelvic floor are exposed in the process of repair the muscle fibres first met with are not portions of the levator ani, but the remains of the transversus perinei profundus muscles. To display the levator ani muscle satisfactorily one must either retract, or in some cases temporarily divide and reflect the transversus perinei profundus. The levator ani fibres on each side thus exposed are brought together in the middle line in front of the rectum, after which the transversus perinei profundus muscles are dealt with in the same way, being united in the middle line superficial to the repaired levator ani muscle. It is in bad cases of prolapse that such very thorough repair of the levator ani is particularly called for.

SIR WILLIAM SMYLY said he regarded the division into three degrees of laceration as of practical importance; the great majority of tears are slight, but there are bad cases in which the muscles are torn, and, as Dr. Tweedy had pointed out, tears through the sphincter muscle form a distinct group. The object of the operation was to bring things back to their original condition, or as near to it as possible. The loose tongue of mucous membrane is the posterior vaginal wall, and by stitching it to the anterior end of the skin wound the triangular shape of the perineal body is restored. and the muscles should then be brought together between vagina and rectum. He preferred operating with the patient in the dorsal position, because, amongst other reasons, both hands were free, whereas in the lateral the left had to act as a speculum. As to the levator ani muscles he thought what Dr. McAllister had said was right.

Dr. Tweedy, replying to the remarks, said he recognised that the muscles held sutures very badly, and could very easily be cut through, and for this reason he described the operation which takes in everything right up to the ischiorectal fossa, and he considered that the most elaborate dissection would not enable more tissue to be taken in. the fresh tear and the old tear the anatomical conditions were precisely similar. He again accentuated the use of a needle sufficiently long and curved to take in enough fibrous sheath, as it would hold better than muscle. He was influenced in writing the paper by the knowledge that many differed from him as to the side position. He referred to the difficulty under which work has often to be done, and said that the operation that could be conducted with the minimum amount of handling was best for the patient, and this he contended was demonstrated by the low morbidity rate obtaining in the Rotunda where the smallest amount of interference was practised. Regarding lacerations in the anterior walls of the vagina, these were rarely attended to, and here also he considered that the minimum operative interference held good. He considered that it was hopeless to teach men to look out for these tears and stitch them. He thought the perinæum was about the only justifiable operation to be done except under the very best conditions. He held that inquisitive midwifery could not be practiced without increasing the morbidity rate. He always

pinned his faith to the mass suture. The old Lawson Tait operation fell into disuse because it did not bring in the muscles, but the modified form of operation in which the curved needle is used works admirably.

AUSTRALASIAN MEDICAL CONGRESS, AUCKLAND, NEW ZEALAND. 1914.

An interesting display of medicinal preparations and surgical requisites is on view in connection with the Australasian Medical Congress at Auckland. An exhibit attracting particular attention is that of Messrs Burroughs Wellcome & Co. Amongst the most recent results of this Firm's experimental work are "Epinine," a synthetic preparation wheh possesses the therapeutic effect of the supra-renal gland active principle; "Ernutin," a clear, palatable fluid, containing the active principle of ergot of rye; and the pituitary gland. The respective actions of these three products on living organisms are indicated by kymographic tracings. Medical equipments expressing the last word in compactness are on view, illustrative of the great variety of these indispensable "Tabloid" cases issued by the Firm, from the smallest pocket case to the comprehensive travelling dispensary. The "Soloid" Bacteriological Case, Blood Test Case, Water Analysis Case, and others, have been specially designed for their respective purposes. An important and interesting feature of the exhibit is the series of "Wellcome" serums, vaccines and tuberculins, and the "Tabloid" animal substance products. "Wellcome" brand chemicals and galenicals and "Kepler" malt extract preparations are also represented. Originated and introduced by this Firm, the "Tabloid" adjustable head dressing will recommend itself to all interested; so also will "Tabloid" bismuth gauze, non-toxic and inodorous. A series of beautiful photographs illustrates the cultivation of medicinal plants on the "Wellcome" Materia Medica Farm, Dartford, Kent.

SANITARY AND METEOROLOGICAL NOTES.

VITAL STATISTICS.

For four weeks ending Saturday, January 24, 1914.

IRELAND.

The average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended January 24, 1914, in the Dublin Registration Area and the twenty-six principal provincial Urban Districts of Ireland was 23.8 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,205,280. The deaths registered in each of the four weeks of the period ending on Saturday, January 24, and during the whole of that period in certain of the districts, alphabetically arranged, correspond to the following annual rates per 1,000:—

		Average Rate					
County Boroughs, &c.	Jan.	Jan. 10	Jan. 17	Jan. 24	for 4 weeks		
27 Town Districts	25.7	25.4	21.7	23.8	24.1		
Dublin Reg. Area	30.4	26.3	24.0	28.4	27.3		
Dublin City	33.1	28.6	25.7	30.6	29.5		
Belfast	25.4	26.5	22.7	23.8	24.6		
Cork	28.6	29.2	19.7	24.5	25.5		
Londonderry	21.6	14.0	12.7	16.5	16.2		
Limerick	12.2	16.2	29.8	14.9	18.3		
Waterford	17.1	30.4	15.2	17.1	20.0		

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain

epidemic diseases registered in the 27 districts during the week ended Saturday, January 24, 1914, were equal to an annual rate of 1.8 per 1,000. Among the 182 deaths from all causes in Belfast were 2 from scarlet fever. 1 from enteric fever, 1 from measles, 5 from whooping-cough, and 3 from diarrheal diseases. Included in the 5 deaths from all causes in Lisburn was 1 from diphtheria and 1 from whooping-cough. One of the 5 deaths from all causes in Wexford was from measles. Among the 6 deaths from all causes in Tralee were 2 from whooping-cough and 1 from diarrhea and enteritis of a child under 2 years. Of the 3 deaths in Newtownards, 1 was from measles, and 1 of the 3 deaths recorded for Armagh was also from this disease.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin, as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines. Pembroke, Blackrock, and Kingstown. The population of this area is 406,000; that of the City being 310,467, Rathmines 39,155, Pembroke 30,240, Blackrock 9,197, and Kingstown 16,941.

In the Dublin Registration Area the births registered during the week ended January 24, amounted to 241—136 boys and 105 girls, and the deaths to 236—116 males and 120 females.

DEATHS.

The deaths registered, omitting the deaths (numbering 15) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 28.4 per 1,000 of the population. During the four weeks ending with Saturday, January 24, the death-rate averaged 27.3, and was 2.8 above the mean rate for the corresponding portions of the ten years, 1904–1913.

The total deaths registered, numbering 236, represent an annual rate of 30.3 per 1,000. The annual rate for the past four weeks was 28.9 per 1,000, and the average annual rate for the corresponding period of the past ten years was 25.6 per 1,000 of the mean population for all deaths registered.

The deaths included 2 from enteric fever, 2 from whooping-cough, 6 from diphtheria, 4 from influenza, 4 from measles, and 5 from diarrhea and enteritis in children under 2 years. In each of the 3 preceding weeks deaths from whooping-cough had been 0, 1, and 0; from enteric fever 1, 3, and 3; from diphtheria 4, 2, and 0; from influenza 3, 3, and 1; from measles 2, 1, and 1; and from diarrhea and enteritis of children under 2 years, 3, 2, and 6.

Of 32 deaths from tuberculosis (all forms) 22 were attributed to pulmonary tuberculosis, 5 to abdominal tuberculosis, 3 to tubercular meningitis, and 2 to disseminated tuberculosis. This number is exclusive of one death of a person admitted to hospital from a locality outside the Area. In each of the 3 preceding weeks, deaths from all forms of tuberculosis had been 35, 28, and 23.

There were 9 deaths from cancer, or malignant disease. This number is exclusive of the death of a person admitted to hospital from a locality outside the Area.

There were 3 deaths of infants from congenital debility, 2 deaths from premature birth, and 2 deaths from congenital malformations.

The 26 deaths from pneumonia included 12 from bronchopneumonia, 3 from lobar pneumonia, and 11 from pneumonia (type not distinguished).

Twenty-one deaths were caused by organic diseases of the heart. There were 38 deaths from bronchitis.

Accident or negligence caused 8 deaths, including one from burning and one by drowning. One death was referred to as homicidal violence.

In 5 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 3 persons aged 65 years of age and upwards.

Sixty-nine of the persons whose deaths were registered during the week were under 5 years of age (38 being infants under one year, of whom 10 were under one month old), and 65 were aged 65 years and upwards, including 53 persons aged 70 and upwards. Among the latter were 31 aged 75 years and upwards, of whom one (a female) was stated to have been aged 95 years.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA, AND IN BELFAST, CORK, LONDONDERRY, LIMERICK, AND WATERFORD.

The following Table shows the Number of Cases of Infectious Diseases notified under the "Infectious Diseases (Notification) Act, 1889," and the "Tuberculosis Prevention (Ireland) Act, 1908," in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the Cities of Belfast, Cork. Londonderry, Limerick, and Waterford, during the week ended January 24, 1914, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Weel endir		Rubella, or Epi- demic Rose Rush	Scarlet Pever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Pyrexia (origin uncertain) a	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Whooping-cough	Cerebro-spinal Pever	A cute Polio- myelitis	Pulmonary Tuberculous	Total
City of Dublin	Jan.	10 17	0 0 0 0 0 0	24 12 13 15	-		15 3 9 11	-	1 2 -	S 21 15 6	6 - 5 5	-	*	-		17 38 24 31	66 57 56 68
Rathmines and Sathgar Urban District	Jan	3 10 17 24		1 - 3	-	-	1 1 3 2		-	1 -	- - 1		*	*	•	* * *	2 2 3 6
Pembroke Urban District	Jan.	10 17 1	3 - 8 - 7 - 8 -	1 1 - 4	-		- - 1	-		2 - 1	1 -	1 1 1			*	1 - 1	18 9 17 27
Blackrock Urban District	Jan.	10 17		-		- 1 1 1	1 -	-	-	-	-	-	0 0		*		1 -
Kingstown Urban District	Jan.	10	* * *	-	-	-	-	-	- - -	-	1111	1111	*		•	4	5 -
City of Belfast	Jan.	10 17		67 55 54 44	2 -		8 6 8 11	-		1 1 4 4	1 4 7 3	- 1 -		-	-	9 6 11 9	88 72 85 71
City of Cork	Jan.	10 17 24	* *	6 1 -	-	-	- 2	-	- - 1	3 -	1 2 3		* *	* *	* * *		8 4 4 4
City of London-derry	Jan. Jun	10 17 24		2 1 2 1	-	-	1	1 1 1 1	1 1 1 1	1 1	1 - 1		* * *	*	0 0		4 1 3 3
City of Limerick	Jan.	10 17 24		- 2 5 1		1 1 1 1		-		1 -	1 1 1	1 1 1 1	*				2 6 1
City of Waterford	Jan.	10					1111		1 1 1 1	- 1 1	1111		* *				1 1

Cases of Infectious Diseases under Treatment in Dublin Hospitals.

During the week ended January 24, 1914, one case of enteric fever was admitted to hospital, 8 were discharged, there was 1 death, and 34 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the three preceding weeks having been 51, 41, and 42.

One case of typhus remained under treatment at the close of the week. The cases in hospital at the end of the 3 preceding weeks had numbered 3, 3, and 1 respectively.

Two cases of measles were admitted to hospital, 6 cases were discharged, and 14 cases remained under treatment at the close of the week. At the end of the 3 preceding weeks such cases were 11, 18, and 18 respectively.

Twenty-one cases of scarlet fever were admitted to hospital, 12 were discharged, and 118 cases remained under treatment at the close of the week. This number is exclusive of 18 patients under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital. At the close of the 3 preceding weeks the cases in hospital had been 132, 117, and 109, respectively.

Fifteen cases of diphtheria were admitted to hospital, 12 were discharged, and there were 3 deaths. The cases in hospital, which at the close of the 3 preceding weeks had numbered 57, 51, and 53 respectively, were 53 at the close of the week under review.

In addition to the above-named diseases, 9 cases of pneumonia were admitted to hospital, 5 were discharged, and 29 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, January 24, in 97 large English towns (including London, in which the rate was 18.2) was equal to an average annual death-rate of 17.5 per 1,000 persons living. The average rate for 16 principal towns of Scotland was 20.9 per 1,000, the rate for Glasgow being 20.6, and that for Edinburgh, 19.6.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended January 24. From this report it appears that of a total of 91 cases notified, 41 were of scarlet fever, 26 of phthisis, 18 of diphtheria, and 6 of erysipelas. Among the 636 cases of infectious diseases in hospital at the close of the week were 309 cases of scarlet fever, 170 of phthisis, 85 of diphtheria, 49 of measles, 5 of enteric fever, and 9 of erysipelas.

METEOROLOGY. Abstract of Observations made in the City of Dublin, Lat. 53° 20'

N., Long. 6° 15' W., for the Month of January, 1914.

Lowest Temperature in Shade (on 1st), - 28.0°.

Lowest Temperature on Grass (Radiation) (1st) 25.4°.

Mean Amount of Cloud, - - 77.0 per cent.

Rainfall (on 12 days), - - 1.002 inch

Greatest Daily Rainfall (on 17th), - .197 inch
General Directions of Wind, - - W., S.W.

Remarks.

As usual, January presented alternate periods of cold and warmth, but in Ireland the mean temperature for the whole month was somewhat above the average, while the rainfall was in defect. At the beginning an anticyclone, in which the barometer touched 30.72 inches at Roche's Point, Co. Cork, on the morning of New Year's Day, hovered off the south coast of Ireland. The year opened with frost in many parts of Ireland and England. At 7 a.m. of the 1st the thermometer

read 22° at Nottingham, 25° at Bath, 28° at Kew and Dungeness, 30° at Dover, 31° at Birr, and 32° at Donaghadee. But a thaw was already in progress in most parts of the Kingdom, and it became general by the morning of the 2nd. Between the 3rd and the 5th a large and deep depression passed in a south-easterly direction from Greenland across Ireland and the Norwegian Sea to Denmark, causing unsettled stormy weather in all districts. It was quickly followed between the 7th and the 9th by a similar disturbance which reached the Baltic on the morning of the latter day. In the wake of this depression the barometer rose rapidly to 30.69 inches at Hernösand, in Sweden, on the morning of the 10th. As a result a violent N. W. & N. storm swept over Germany, accompanied by heavy falls of rain and snow. This in turn was followed by an intense and abiding frost, which extended to France and the Peninsula. Throughout the week ended on the 17th the weather in the British Isles was influenced by a large anticyclone which advanced from Northern Europe and which was originally of great intensity. On the morning of Monday, the 12th, the barometer rose to 30.90 inches at Karlstad in Central Sweden. Fresh E. and S.E. winds prevailed, the sky was densely clouded so that radiation was checked, little variation in temperature occurring between day and night. A temporary break took place on the 17th, and during that day and the following night rain and hail fell abundantly in Dublin to the amount of .197 inch. During the earlier part of the next week also (18th-21st, inclusive) the anticyclone maintained its position, but it thenceforward retreated southeastwards to the Continent, while a large area of low pressure spread over Ireland and Scotland from the Atlantic. The weather now became mild, but very unsettled and ultimately stormy from S.W., for depression after depression swept rapidly past the Irish and Scottish coasts in a northeasterly direction as secondaries to deep primary cyclonic systems travelling along the Arctic Circle in the far N.

In Dublin the arithmetical mean temperature (42.6°) was above the average (41.7°) by 0.9° ; the mean dry-bulb readings at 9 a.m. and 9 p.m. were 42.3° . In the forty-nine years ending with 1914, January was coldest in 1881 (M. T. = 33.2°), and warmest in 1898 (M. T. = 47.8°). In 1913 the M. T. was 43.4° .

The mean height of the barometer was 30.102 inches, or

0.228 inch above the corrected average value for January—namely, 29.874 inches. The mercury rose to 30.651 inches at 9 a.m. of the 1st, and fell to 29.419 inches at 1 p.m. of the 31st. The observed range of atmospheric pressure was, therefore, 1.232 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 42.3° , or 0.3° below the value for January, 1913. The mean maximal airtemperature was 46.4° ; the mean minimum was 38.8° Using the formula, $Mean\ Temp.=Min.+(Max.-Min.)\times.52$, the M. T. becomes 42.8° , compared with a thirty-five years' (1871–1905) average of 41.9° . The arithmetical mean of the maximal and minimal readings was 42.6° , compared with a thirty-five years' average of 41.7° . On the 9th and 31st the thermometer in the screen rose to 56.0° —wind, S.W.: on the 1st the temperature fell to 28.0° —wind, W.N.W. The minimum on the grass was 25.4° on the 1st.

The rainfall was 1.002 inch distributed over 12 days. Of this amount .197 inch fell on the 17th. The average rainfall for January in the thirty-five years, 1871–1905, inclusive, was 2.210 inches, and the average number of rain-days was 18. The rainfall, therefore, and the rain-days were much below the average. The record rainfall for January was in 1895—namely, 5.711 inches on 24 days. In 1876, only .406 inch was measured on but 9 days. In 1907, only .428 inch fell on but 9 days. In 1911, only .638 inch fell on 10 days, but in 1912, 3.510 inches fell on 19 days, and in 1913, 5.576 inches on 21 days.

The atmosphere was foggy on the 17th, 18th and 29th. High winds were noted on 7 days, and reached the force of a gale on the 4th, 25th, 30th, and 31st. Snow fell on the 5th, hail on the 17th. A lunar corona was seen on the 7th. Temperature reached or exceeded 50° in the screen on 9 days; while it fell to 32° in the screen on 2 nights. The grass minimum was 32° or less on 3 nights. On the 21st the maximal temperature in the screen was 37.9°. Lightning was seen on the evening of the 5th.

At the Normal Climatological station in Trinity College, Dublin, Mr. C. D. Clark reports that the mean height of the barometer was 30.097 inches, the range of atmospheric pressure being from 30.64 inches at 9 p.m. of the 1st to 29.50 inches at 9 a.m. of the 31st. The mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 43.2°. The arithmetical mean of the daily maximal and minimal temperatures was 42.7°. The screened thermometers rose to 57° on the 8th and 9th, and fell to 26° on the 1st. On the 1st the grass minimum was 19°. Rain fell on 11 days to the amount of .956 inch, the greatest fall in 24 hours being .164 inch on the 31st. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 14.2 hours, of which 5.2 hours occurred on the 26th. The mean daily sunshine was 0.5 hour. The mean temperature of the soil at 9 a.m. was 41.5° at a depth of 1 foot; at a depth of 4 feet it was 44.4°.

Captain Edward Taylor, D.L., reports a rainfall of .88 inch on 14 days at Ardgillan, Balbriggan, Co. Dublin. This measurement was 1.65 inches below the average, and the rain-days were 4 in defect. The maximal fall in 24 hours was .15 inch on the 31st. The highest temperature in the shade was 54.1° on the 31st, the lowest was 28.9° on the 1st. In 1913 the January rainfall had been 5.08 inches at Ardgillan.

Mr. T. Bateman reports that the rainfall at The Green, Malahide, Co. Dublin, was .92 inch on 12 days. The greatest fall in 24 hours was .20 inch on the 31st.

The rainfall at Stirling, Clonee, Co. Meath (height above sea level, 231 feet), recorded by Mr. J. Pilkington, was 1.54 inches on 14 days. The largest daily measurements were .30 inch on the 4th and .29 inch on the 31st. No rain fell from the 10th to the 23rd, inclusive, with the exception of .12 inch on the 17th.

At Cheeverstown Convalescent Home, Clondalkin, Co. Dublin, Miss C. Violet Kirkpatrick registered .72 inch of rain on 12 (?) days.

At the Ordnance Survey Office, Phœnix Park, Dublin, rain fell on 15 days to the amount of 1.290 inches, the greatest measurement in 24 hours being .260 inch on the 17th. The total duration of bright sunshine was 20.5 hours, the largest amount recorded on one day being 5.5 hours on the 26th.

Dr. Christopher Joynt, F.R.C.P.I., measured .965 inch of rain on 12 days at 21 Leeson Park, Dublin. The heaviest

fall in 24 hours was .210 inch on the 17th. In January, 1913, the rainfall at Leeson Park was 5.592 inches; and in January, 1895, it was 6.480 inches, but of this large amount 3.400 inches were the product of melted snow.

At 19 Highfield Road, Rathgar, Mr. Harold Fayle recorded a rainfall of 1.09 inches on 12 days, the heaviest fall in 24 hours being .21 inch on the 9th. On the 31st .18 inch fell in 10 minutes. The gauge at this station stands 12 inches above the ground and 130 feet above sea level.

Dr. Arthur S. Goff reports that the rainfall at Belfort House, Dundrum, Co. Dublin, was 1.27 inches on 15 days, the greatest daily measurement being .35 inch on the 17th. The thermometer in the shade ranged from 56° on the 8th to 29° on the 1st. The mean shade temperature was 42.3°. Snow fell on the 5th.

At Manor Mill Lodge, Dundrum, Co. Dublin, Mr. George B. Edmondson recorded a rainfall of 1.35 inches on 12 days, the maximum being .33 inch on the 17th. The mean temperature of the month was 41.5°, the thermometric range being from 28° on the 1st to 55° on the 8th, 9th, 30th and 31st.

At Marino, Killiney, Co. Dublin, Mr. W. J. MacCabe, on behalf of the Right Hon. Laurence Waldron, D.L., measured .73 inch of rain on 9 days. The largest fall in 24 hours was .25 inch on the 9th.

Dr. A. J. Blake reports that the rainfall at the Sanatorium of the Dublin Joint Hospital Board, Crooksling, Co. Dublin, amounted to 1.88 inch on 15 days. The heaviest fall in 24 hours was .31 on the 17th.

At Coolagad, Greystones, Co. Wicklow, Dr. John H. M. Armstrong measured 1.09 inches of rain on 15 days, the maximum in 24 hours being .19 inch on the 31st. On the 5th and 17th sleet fell, and hail at 11 40 p.m. of the 17th.

Mrs. Sydney O'Sullivan recorded a rainfall of .77 inch on 14 days at Auburn, Greystones, Co. Wicklow, the largest measurements in 24 hours being .15 inch on the 5th and 31st.

At the Royal National Hospital for Consumption for Ireland, Newcastle, Co. Wicklow, the Resident Medical Officer, Dr. Charles D. Hanan, M.D., measured 1.47 inches of rain on 15 days, the maximum in 24 hours being .55 inch on the 17th. The mean maximal temperature in the screen was 46.6°. The mean minimum was 36.2°. The resultant mean tempera-

ture was 41.4°. The screened thermometers rose to 57° on the 8th and 9th and fell to 29° on the 1st.

The Rev. Arthur Wilson, M.A., reports that rain fell on 21 days at the Rectory, Dunmanway, Co. Cork, to the amount of 4.86 inches, or 1.07 inches less than the average, and 6.69 inches less than the fall in January, 1913. The heaviest falls were .61 inch on the 24th, .56 inch on the 7th and .55 inch on the 31st. There was a very severe frost on the morning of the 1st, and skating took place on that day and early on the 2nd, but a thaw then set in. The weather was dry, cold and hard up to the 23rd, with very little rain except on the nights of the 7th, 8th and 9th. The rainfall for these three days was 1.55 inches and for the first 22 days 2.11 inches. There was no rain from the 12th to the 17th inclusive. The last 9 days were very unsettled, and stormy on the nights of the 30th and 31st. Many days were dark and cold, with easterly wind.

AN EPIDEMIC OF ACUTE PCLIOMYELITIS.

Dr. Acheson Aiken, writing from Drumadravey, Irvinestown. Co. Fermanagh, under dates February 19th and 22nd, 1914, informs us that an epidemic of atrophic poliomyelitis broke out recently in that district. He writes: "The first case I saw on the 26th of January. Since then I have had one or two cases The symptoms in all instances are headache and vomiting for a day, then complete remission for a day or two. the children very often returning to school. Then headache suddenly returns, with pain in the cervical spine, retraction of the head, and rigidity of the muscles of the neck; also paralysis of legs and arms (especially of the shoulder), and in the fatal cases the pharynx was affected; in one such case temperature was 105°, respiration 60 and pulse 120. In no other instance did the temperature rise higher than 102°, the average being 101°. Nearly all the patients have had paralysis of the bladder and rectum. Sensation is unaffected, pain generally absent, reflexes lost. The age is from 9 months to 16 years. Two cases have occurred in some families, nearly all of well-to-do farmers. The disease is spread all over the district. A good many cases are of the abortive type. One patient in a family in which four members were attacked has facial palsy without any other paralysis."

PERISCOPE.

MERLUSAN: A NEW REMEDY FOR SYPHILIS.

AT a meeting of German Natural Scientists and Physicians recently held at Vienna, Professor Dr. Rudolf Matzenauer, Chief of the Imperial Royal Dermatological Clinic of the University of Graz, reported on a new mercury preparation discovered by Dr. Hans Buchtala, demonstrator and assistant at the Medico-Chemical Institute of the University of Graz. the introduction of which into the therapeutics of syphilis is a matter of obviously the very greatest importance, since it places the method of treatment of this dangerous epidemic on a perfectly new basis. The new preparation—to which the name of Merlusan has been given—is the first of its kind which is not applied by means of injections or which is not rubbed on externally, but which is taken internally by the patient in the form of tablets. Professor Dr. Matzenauer was able to demonstrate by a series of scientific tests and by the reports of the results obtained that the use of merlusan will have no harmful effects on the digestive system or any of the other organs, the very contrary being the case. Of all the methods of employing mercury hitherto in use, the internal treatment by means of pills was considered—as the learned Professor went on to point out—the method the least efficient. In fact in order to obtain a thorough effect of the mercury, either injections or inunctions had to be resorted to. Merlusan is a compound of mercury and albumen, insoluble in acids, and, therefore, it will not be affected by the acidulous gastric juice. dissolving only under the influence of the alkaline intestinal juice, and only then passing into the system and entering into the blood vessels. As hundreds of clinical tests and the experiments made on patients have proved, the effect of merlusan is fully equal to that of a vigorous treatment by means of injections and inunctions. Taking daily say from four to five tablets will result in an absorption of mercury into the system which is effectively greater than that resulting from strong insoluble mercury injections. The separation of mercury in the case of merlusan is about

twice as great as in the case of inunctions and almost ten times that obtained by the aid of other pills. The chief therapeutic value of merlusan may be said to consist in the fact that it constitutes a mercury compound which does not contain any components foreign to or even harmful to the system. In a like manner, in the treatment of gonorrhæa, merlusan will prove a specific remedy if employed alternatively with other preparations. In conclusion the learned Professor referred to a series of experiments with merlusan which had been undertaken at Court Councillor Professor Klemensiewicz Institute for Experimental Pathology, and he expressed his thanks to this eminent scholar for assisting a research wherein chemistry and medicine had combined for the benefit of suffering and unfortunate human beings.

TUNING-FORKS IN MEDICINE. - THE NOTES OF DISEASE.

Some notable work has been done by Dr. James Cantlie in the use of tuning-forks in the diagnosis of obscure diseaseconditions. Dr. Cantlie found that in certain cases it was exceedingly difficult with an ordinary stethoscope to obtain accurate knowledge of enlargements of such organs as the liver, spleen, stomach, and heart, more especially where enlargement was accompanied by affection of neighbouring structures. He discovered that if a tuning-fork was set vibrating, and the shaft of the fork placed against the bodywall and moved about, a note varying with the density of the organ situated immediately beneath was transmitted to the stethoscope. "In this way," he says, "the limits of the liver can be gauged with almost hairbreath precision." The fork used gives out the note C sharp; it has a specially-designed "striker" attachment, so that it need not be removed from position for the purpose of re-vibrating. The method has proved very useful in cases of small, localised pleurisy situated low down in the chest, which by ordinary methods cannot easily be differentiated from abscess of the liver or a liver pushed upwards towards the lung by abdominal distension. Dr. Cantlie in certain cases compared the results of his tuning-fork method with those obtained by means of x-rays, and found that the former were absolutely accurate. He believes that the method can, with advantage, be used in diagnosing cases of broken ribs and bones generally. He

has further been making observations on the different tones which are specific to different affections of the liver, and has proved that, for example, a fatty liver gives out tones distinct from those of cirrhosed (fibrous) liver. Sufficient evidence has not yet been collected, however, to enable him to tabulate the sounds peculiar to each diseased condition.— The Times, February 5, 1914.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Polylactol.

This preparation has as its base somatose, the value of which as a galactagogue has long been recognised. According to a report recently issued by Professor Ott, of Philadelphia. albumoses have a specific action in stimulating lactation, and somatose consists almost entirely of albumoses obtained from meat albumen. The further constituents are iron in organic form, maltose and galactose. The iron is of especial value in cases where the mother is either temporarily or constitutionally anæmic, while the carbohydrates are instrumental in inducing the proper proportion of sugar in the milk, and also, according to some authorities, increasing the fat-content. The preparation is quite palatable, and therefore easily taken. The dose is one teaspoonful, dissolved in plenty of milk, given three or four times a day, with meals. The bottle, dispensed at 2s. 9d., lasts over a week, so that the preparation is not unduly expensive. Already exhaustive clinical experiments have been made into the value of the preparation, with very successful results. In some cases, where the flow of milk had entirely ceased it was restored by means of polylactol, and in others where the condition of the infants suggested insufficient nourishment, rapid improvement was effected under its influence. The claim seems quite justified that in most cases natural feeding will be rendered possible by the preparation, the use of which is generally begun a week or two before confinement and continued during the whole period of lactation. The Bayer Company, 19 St. Dunstan's Hill, London, E.C., offer to send a trial supply and literature to anyone interested.

DR. FRANK C. PURSER on "Amyotonia Congenita."





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PART I. ORIGINAL COMMUNICATIONS.

ART. X.—A Case of Amyotonia Congenita. By Frank C. PURSER, M.D., F.R.C.P.I.: Physician to Mercer's Hospital, Dublin. (Illustrated.)

This is, I think, the first case of its kind reported in Ireland. The patient, M. M'G., a male aged two years and three months, was brought to Mercer's Hospital early in the year. I am dependent on the father for the previous history of the child's case. The following facts were spontaneously related, no questions having been asked:—The child was weak. He could not walk. He had always been soft. He had not used his arms for six months after birth. "His head fell any way." "The neighbours used to come to see the queer way his limbs could be put." At the age of nine months he could use his arms sufficiently to put a crust in his mouth.

Further details are these:-

Case.—The patient is the seventh child in a family or eight. His mother was very delicate during the pregnancy. She

^{*}Shown at the Section of Medicine in the Royal Academy of Medicine in Ireland on Friday, February 27, 1914.

used to be wearied by the child's movements. The birth was natural, but there was severe post-partum hæmorrhage. The mother died in next confinement. At the age of fifteen months the child got severe diarrhea for four weeks. He became cross and restless. His belly swelled, and, later on, his chest got a queer shape. (In fact, he had acute rickets.)

One brother shows signs of rickets, and one had chorea.

Syphilis in the father cannot be excluded, but is not suspected.

The child is puny for his age. He speaks only a few words, but he seems averagely intelligent. There are well-marked signs of rickets—shape of skull, gaping fontanelle, and bead-

ing of the ribs.

The child can make no attempt to stand, but he can sit up without support when he has been helped into a sitting posture. If his body be bent forwards he collapses in a heap; if his head be bent backwards or forwards he has no power of getting it erect again. His spinal and abdominal muscles are fairly firm; they react briskly to faradic stimulation, and the abdominal reflexes are active. Swallowing, coughing and crying are vigorously performed. There is no sign of facial weakness.

The limbs are extremely flabby and evenly small. All movements can be performed, but extension of the thigh is extremely feeble. The glutei are apparently the softest and feeblest of all his muscles. They contract to faradic stimulation when it is strong, as do the other muscles of the leg. There are no polar changes. The movements of the arms are more frequent and of wider range and better power than those of the legs. But they, too, are feeble, even when the child is angry. Occasionally a rhythmical tremor, about six or seven to the second, is seen in the arm used.

There is extreme flaccidity, and the joints are abnormally "loose." The photographs give an idea of this feature.

As far as can be judged the child has normal sensation of touch and pain. But he does not protest much when stimulated by an interrupted current that is to me very unpleasant. I was inclined to look upon this feature, which is very common in these cases, more as a feebleness in protesting against than as a "stoical indifference to" faradic stimulation, but the vehemence of his protests against ophthalmo-

scopic examination led me to accept the usual description. The fundus of the eyes is normal. There is considerable hypermetropia and astigmatism. There is sometimes, but not always, nystagmus, as marked when he is looking straight in front as when the eyes are rotated in any direction. Dr. Euphan Maxwell kindly examined the eyes for me.

The deep reflexes in the arms have always been absent. Once or twice I have succeeded in eliciting a jerk from the patellar tendons, but knee jerks are nearly always absent. Achilles tendon jerk I have never obtained. The plantar reflexes are normal.

The child is not well trained, but there is no reason to suppose his sphincters are affected.

The case differs from the majority of others described in the presence of nystagmus and the association with rickets. The latter condition leads to great flaccidity certainly, but not to such extreme flaccidity as is found in this case. Moreover, it is obvious from the spontaneous account given by the father that the condition was noted immediately after birth and long before the onset of the rickets.

The child's general condition has improved greatly during his stay in hospital. Perhaps the trunk is a little stronger and the head held a little more securely, but I do not see any change for the better in the limbs. He is being treated with iron and cod-liver oil, mild massage and the galvanic current. It is not impossible that he will acquire in time very fair power in his limbs.

Art. XI.—Hypnotism.^a By Cecil P. Smyly, M.D. Univ. Dubl.; F.R.C.S.I.

It is impossible in a short paper to do justice to a subject so wide and so interesting as hypnotism; I shall therefore only attempt to give a sketch of its development and a few hints as to its employment in medicine.

Even in the most ancient times it was known, at least to some people, that the phenomena now called hypnotism

^{*} Read before the Dublin University Biological Association on Thursday, January 8, 1914.

could be produced, and also what conditions were most favourable for their production. Advantage was taken of this knowledge both in religion and medicine, either consciously or unconsciously, just as at the present day.

Both in Egypt and in Greece the priests, who in those days were also physicians, were skilled in the art of suggestion as applied not only to the treatment of disease, but also to the production of so-called miracles: in Asia, especially India, hypnotism has been known and practised since time immemorial, and is still in common use: in less civilised communities the witch-doctor and faith-healer owe most of their success to similar practices.

In every age certain people have been credited with the power of influencing others, either for good or ill, and of doing so either by immediate contact or at a distance. Everyone has heard of touching for the king's evil, and though not now in fashion, it is known to have been quite as successful as many more modern methods; witches, on the other hand, were able to exert their powers by overlooking or casting the evil eye, or by working charms even in the absence of their intended victim.

All these various phenomena were more or less associated with the very ancient science of astrology. Chaucer, in one of the Canterbury Tales, relates how a learned clerk produced visions which can easily be accounted for by hypnotism.

On the basis of astrology, which taught the influence of the stars on the minds and actions of men, Paracelsus, about the year 1530, founded his theory that men could influence one another, and especially those who were sick.

In 1665 a Scotchman called Maxwell produced a regular system of magnetic healing. He taught that there was a universal *spiritus vitalis* which pervaded and acted on all living bodies, in a manner similar to the magnetic fluid of Mesmer. He also believed that all animal bodies emitted rays which possessed living properties acting on neighbouring bodies. Even the excrements retained

these properties, and were useful in treatment. A relic of this may, perhaps, be traced in the employment in some places of animals' droppings or human saliva as a dressing for wounds. It was not, however, until more than a century later that the science of Animal Magnetism attracted any general attention.

In 1766 Anton Mesmer took his M.D. degree in the University of Vienna, the subject of his thesis being "The Influence of the Planets on the Human Body." Six years later he began to study the properties of the magnet with Father Hell, the Professor of Astronomy. The latter had invented steel plates of a peculiar form which he magnetised and applied to the cure of disease, with, it is said, extraordinary success. Mesmer had his own ideas about the power of the magnet, and used his friend's plates to test them, with miraculous results. Father Hell published a report, in which he attributed the whole success to his plates, and described Mesmer as merely a physician whom he had employed to carry out his experiments. The controversy which followed resulted in Mesmer having to leave Vienna. He continued to produce cures, but instead of using Hell's plates he employed what he called animal magnetism.

In 1778 he arrived in Paris, after travelling in Germany and Switzerland. Among the thousands of rich and poor who flocked to him was a Dr. D'Eslon, who became his pupil, and practised with such success that Mesmer complained bitterly that the rewards of his deep study and life-long labours were snatched from him by a mere empiric. Through the influence of Queen Marie Antoinette, Mesmer was offered a large pension if he would submit his system to the examination of a Royal Commission. The Commission was appointed, but Mesmer removed to Spa, leaving the Commissioners to sit on D'Eslon, which they did gently but firmly. The object of their investigations was to prove the existence of animal magnetism and its utility in the cure of disease. Mesmer described his discovery as "a fluid universally

diffused: it is the medium of a mutual influence between the heavenly bodies, the earth, and animate bodies: it is extended so that there is no vacuum: it is capable of receiving, propagating, communicating all the impressions of movement: the animal body feels the effect of this agent, and it is by insinuating itself into the substance of the nerves that it directly affects them. The action and virtue of animal magnetism may be communicated from one body to other bodies animate and inanimate; this action is exerted at a considerable distance without the help of any intermediate body." He also laid down that "there is only one Nature, one disease, one remedy, and that remedy is animal magnetism." This dogma is perhaps rather more credible than the modern one, that neither matter nor disease exists, but that a certain method of treatment will cure the former when affected by the latter.

The description of the treatment is rather interesting. "In the centre of a large room the Commissioners saw a circular case made of oak, and raised about a foot or eighteen inches, which is named the tub or baquet. The top of the case is pierced by a number of holes, whence there come out stems of iron, bent and movable. The patients are placed in several rows around this tub, and each has his rod of iron, which, by means of the bend, can be applied directly to the diseased part. A cord passed round their bodies unites them to each other. Sometimes a second chain is formed by joining hands. A pianoforte is placed in the corner of the room, on which are played various airs. All those who magnetise have in their hand a rod of iron ten or twelve inches long; and, according to Dr. D'Eslon, to magnetise the piano it is only necessary to put the rod of iron near it. The inside of the tub is so made as to concentrate magnetism in it; it is a large reservoir from which the magnetism spreads by the iron rods plunged in it." The Commissioners satisfied themselves later, by means of an electrometer and an iron needle not magnetised, that the tub contained nothing

whatever either electric or magnetised. "The patients were also magnetised directly, by means of the finger and the iron rod directed in front of the face, above or behind the head, and on the diseased parts. One acts on them by the look and fixing the gaze on them; but especially they are magnetised by the application of the hands and the pressure of the fingers on the hypochondria and on the regions of the lower abdomen, an application which is often continued for a long time, sometimes several hours. As a result some of the patients remain calm and feel nothing, others feel slight pain, a local or general warmth, others are agitated and tormented by convulsions. These convulsions are extraordinary in their number, duration and violence. As soon as one begins several others manifest themselves. The Commissioners have seen some that lasted three hours."

After five months' careful investigation and experiment the Commissioners reported "that having recognised that this animal magnetic fluid cannot be perceived by any of our senses, that it has had no action either on themselves or on the patients whom they submitted to it; having assured themselves that the pressures and touches cause changes which are seldom favourable to the animal economy, and stimulations of the imagination which are always troublesome; having lastly demonstrated by decisive experiments that the imagination without magnetism produces convulsions, and that magnetism without imagination produces nothing: they have concluded unanimously, in regard to the question of the existence and utility of magnetism, that nothing proves the existence of the animal magnetic fluid; that this nonexistent fluid is therefore useless: that the violent effects seen in the public treatments are produced by touch and the imagination set in motion, and by that mechanical imitation which leads us in spite of ourselves to repeat that which strikes our senses."

Shortly after the publication of this report Chastenet de Puysegur, in 1784, discovered the condition called artificial somnambulism, the chief characteristic of which was a condition of sleep in which the magnetiser was able to direct the ideas and actions of the magnetised.

At the end of the eighteenth and the beginning of the nineteenth century an American called Perkins invented, and of course patented, "two instruments, one having the appearance of steel, the other of brass: the ends were brought to a point, and were applied to the patient by drawing the points in a downward direction over the afflicted parts for twenty minutes." These were the once famous Metallic Tractors. In 1804 his son established the Perkinian Institute in London, under the presidency of Lord Rivers. Dr. Haygarth, of Bath, however, found that the same good results were obtained by using tractors made of lead, wood, or even a nail covered with sealing-wax.

In 1837 John Elliotson began to mesmerise patients at University College Hospital, with the result that he was compelled to resign his appointments. In 1843 he and his friends started a paper called the Zoist, through the influence of which mesmeric infirmaries were opened in London. Edinburgh, Dublin, and elsewhere. In Exeter Mr. Parker, a surgeon, performed 200 painless surgical operations on mesmerised patients. Among the cases reported in the Zoist were amputations of the thigh, leg, arm. breast, &c., in addition to the cure of numerous diseases.

In 1845 James Esdaile, having read of Elliotson's successes, began to employ mesmerism in India, and in 1846 was placed in charge of a hospital in Calcutta in order to continue his mesmeric operations. Most of his cases were elephantiasis of the scrotum, the removal of which entailed a mortality of 50 per cent., but in 161 consecutive cases operated on by Esdaile the mortality was only 5 per cent.

The discovery of hypnotism, as distinguished from mesmerism, is due to James Braid, a Scotch surgeon who settled in Manchester. In 1841, after witnessing a mesmeric séance, he determined to try and discover the cause of the phenomena which had been produced. After

a number of experiments he became convinced that the phenomena were purely subjective, and not due to any mysterious force or fluid; and from that time till his death in 1860 he employed suggestion with success in his practice. In the *Medical Times* for 1846 Braid published a series of papers criticising the "Researches on Magnetism" of Baron von Reichenbach, the inventor of the od or odic or odylic force, and described the experiments he performed in order to demonstrate that the mental part of the process was the only factor of any importance, and that the impressions of the patient were produced and could be controlled and directed by suggestion.

After the death of Braid the practice of hypnotism practically came to an end in England, but in France Dr. Liébault discovered, in 1860, that by suggestion he could induce a condition which he called "sommeil provoqué." He soon gave up ordinary practice, and in 1864 settled at Nancy and gave himself up to hypnotic work. For twenty years he devoted himself to the poor, and refused to accept a fee lest he should be considered guilty of unprofessional conduct. It was not till 1882 that he met with anything but contempt and ridicule; in that year he cured a patient who had been treated by Prof. Bernheim for sciatica for six months without relief. The Professor visited Liébault, and though at first sceptical, soon became an eager pupil, and in 1884 published his great work on suggestion. From that date Liébault became well known, and doctors flocked to Nancy to study the new method of treatment. Among them I would like to allude to the late Sir Francis Cruise, who is specially mentioned by Prof. Moll, of Berlin, in his text-book of hypnotism, as the only Irishman who has studied and written on the subject.

While Liébault was being ignored or laughed at in Nancy, Charcot established a school of mesmerism at the Hospital of La Salpêtrière in Paris. For some time there was keen rivalry between the two schools, but Charcot's views are now generally discredited, while those of Liébault

have spread over the whole of Europe. In England the hypnotic revival, though the way was prepared for it by Braid, arose chiefly through Liébault's influence, one of its leading exponents being Dr. Bramwell, of London (who, by the way, also comes from north of the Tweed).

To pass from the history to the nature of hypnotism. Hypnosis may be defined as a psychical condition in which suggestions are not only much more easily accepted, but are also realised with an intensity much greater than is possible in the normal state. The term hypnosis or hypnotism is rather deceptive, as sleep is only one of the many phenomena which can be produced, and is certainly not one of the commonest. The idea of sleep also suggests relaxation and unconsciousness, but in hypnosis not only is the mind in a peculiarly sensitive state of consciousness, but the body is capable of extraordinary muscular efforts.

In the lighter stages the memory is unaffected, though in the stage of somnabulism there is post hypnotic amnesia—i.e., in normal life the patient remembers nothing of what took place under hypnosis. On being rehypnotised, however, he will remember not only all that happened in previous hypnoses, but also the events of every-day life, many of which he perhaps thought he had forgotten.

Even in the lighter stages the special senses can be altered by suggestion, either with increase or decrease of their activity. A psychical dumbness, blindness or deafness can be produced, and in deeper hypnosis analgesia and anæsthesia.

As to susceptibility. Schrenck Notzing states that out of 8,705 persons tried by fifteen different observers, 6 per cent. were uninfluenced, 15 per cent. became somnambulistic, 79 per cent. were less deeply hypnotised. Liébault's failures amounted to only 3 per cent. while, according to Forel, every mentally healthy person is naturally hypnotisable. Race and sex cause hardly any difference in susceptibility, but children over three are more easily influenced than adults.

You will often hear it said that a person who is easily hypnotised must have a very weak mind, but all authorities are agreed that the hysterical and ill-balanced are the most difficult to influence, and that most lunatics and all imbeciles are quite incapable of being hypnotised at all.

I do not intend to refer in any detail to the methods of inducing the hypnotic state as they are not of any great importance. They may be grouped under two heads:—

- (1) Sensory stimulation—e.g., passes, fixed gazing, &c.
- (2) Central stimulation, or suggestion.

Much more important are the conditions which tend to induce hypnosis, for in the normal state few people are sufficiently suggestible.

- (1) Fixity of attention is one of the most important; the subject's thoughts must be confined as far as possible to one idea or one set of ideas.
- (2) Monotony is of great assistance whatever method is employed.
- (3) The absence of all voluntary musculary movements is essential.
- (4) These all tend to produce the fourth condition, that of limitation of consciousness, which in every case depends on—
 - (5) The inhibition of all extraneous ideas.

No matter what method is used the results depend chiefly on the suggestibility of the subject, and only in a minor degree on the operator, though obviously some men can enforce obedience to their suggestions better than others. If, however, the subject offers a real resistance, or if he has produced a condition of auto-hypnosis, it is almost, if not absolutely, impossible to induce even the lighter states of hypnosis.

As to the effect of hypnotism on the will. Bramwell writes:—"I have never, either in this country or abroad. seen a hypnotic suggestion carried out which involved anything opposed to the patient's prejudices, feelings or moral sense. Bernheim and others base the possibility of hypnotic crime on the fact that hypnotic subjects will

sometimes execute imaginary ones. Questioning in subsequent hypnosis however reveals the fact that the subject knew exactly what he was doing and fully realised the experimental nature of the transaction."

The various conditions in which hypnotism has been used with success are so numerous that it is impossible to do more than mention a few, such as the different forms of hysteria, including perversions of sentiment, obsessions and irresistible impulses; functional neuroses of children; neurasthenia; dipsomania and drug habits; insomnia and epilepsy; menstrual disorders and constipation; seasickness and stammering.

Organic diseases, of course, cannot be cured, but many of their symptoms can be relieved.

For therapeutic purposes, as a general rule, only a light degree of hypnosis is necessary, and latterly Bramwell employs suggestion alone, without hypnotising his patients.

In surgery hypnotism has frequently been employed to procure anæsthesia, both before and since the invention of ether and chloroform.

Like all other anæsthetics it has its advantages and disadvantages. Once anæsthesia has been obtained it can be continued for any length of time, and can be re-induced by either the written or verbal command of the hypnotiser when required. Nervousness can be removed. No preparation is necessary; the process is absolutely safe and pleasant; and, of great importance in operations on the mouth and throat, there are no gags, tubes or other apparatus to get in the way of the operator; there is no post-operative vomiting; pain after operation, and at subsequent dressings can be entirely prevented, and frequently the rapidity of healing is marked.

Numbers of cases of painless parturition during hypnosis have been reported, and certainly the uterine contractions can be modified by the action of the voluntary muscles. Pregnant women are more easily hypnotised than those suffering from nervous diseases, but, though over 90 per cent. of people can be hypnotised, it generally requires

several preliminary attempts before a sufficient depth of hypnosis can be obtained, and so, until the methods of induction are greatly improved, the use of hypnotism as an anæsthetic must always be restricted.

Naturally many attempts have been made to explain how the phenomena of hypnotism are produced. Why is the somnabulist able to recall the events of normal as well as of hypnotic life, but when the condition is passed remembers only those of ordinary life? How does he acquire such a peculiar influence over his own mind and body?

Mesmer believed in a vital fluid or force which was transmitted from the operator to sensitive subjects, and which also existed in metals, crystals and magnets.

According to Braid everything was due to changes in the patient's own brain, one idea becoming dominant through the temporary inhibition of the other ideas which normally control it. Later, he came to the conclusion that the only explanation of the condition was the intelligent action of a secondary consciousness.

Charcot's views were simply those of the mesmerists, only that he terms the subjects hysterical instead of sensitive.

The Nancy school reproduces Braid's earlier and discarded theory of psychological inhibition, and attributes all the phenomena to suggestion. Some of the modern explanations are peculiarly lucid; for instance, a supposed decrease of cerebral activity is described as "an inhibition of the amoeboid movements in the pseudopodic protoplasmic prolongations of the neurospongium."

The theory which, according to Bramwell, affords the best working hypothesis is that of the subliminal consciousness. It presupposes a secondary consciousness capable of exerting powers over which we normally have little or no control; and certainly the phenomena of hypnotism all show increased, not diminished mental power.

In conclusion, may I quote from "The Parasite," by

Conan Doyle: "What strange deep waters these are!... Results, results! And the cause an absolute mystery!"

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ART. XII.—A Case of Tuberculosis of the Spine, with Pressure Symptoms on the Cord. By Henry Stokes, M.D. Univ. Dubl., F.R.C.S.I.: Surgeon to the Meath Hospital and County Dublin Infirmary.

For the notes of this interesting case I am indebted to my clinical clerk, Mr. F. R. H. Mollan:—

M. S., female, aged twelve years, was admitted to the Meath Hospital and County Dublin Infirmary on the 2nd of February, 1914, under the care of D∴ E. E. Lennon. On the 16th of February she was transferred to the surgical side under the care of Mr. H. Stokes.

Previous History.—M. S. has had scarlatina, measles and chickenpox, from which she made complete recoveries.

Family History.—The father and mother are strong and well. Three sisters are living. Two brothers and two sisters are dead. Her father, mother and three brothers are alive. One brother died of convulsions and bronchitis.

Present Illness.—The patient complained of "weakness" in her legs and of a "lump" in her back. According to herself she was ill only a week before she came to hospital. She complains of little pain.

Physical examination revealed the following results:—The patient's legs were somewhat spastic when first admitted; when examined a fortnight later (on February 16th, 1914) she was unable to walk at all, and would collapse on the floor if she tried to do so. On the 23rd of February she was able to

walk across the ward and back with only slight assistance. In walking she would try to lift her legs high off the ground, but would catch her toes, especially the left, on the floor. She seemed to expend a great amount of energy in even walking across the ward, and was hardly able to get back to her bed again, so quickly was she tired.

By means of hot and cold test tubes it was ascertained that the patient's thermal sensations were intact. In a similar manner, by means of fine points, her tactile sensations were proved to be but little, if at all, affected. Her sensations of pain appeared normal.

The knee jerks were increased, and ankle clonus and rectus clonus were both very evident, the former particularly so Babinski's sign was also well marked.

On examination of the spine well-marked kyphosis was present, the curvature being situated about the fourth or fifth dorsal vertebra. The lungs were healthy. The heart was normal. The abdomen also was normal. There was no sign of tuberculosis in any other joints. There were no enlarged glands.

The spine was kept rigid, and "boarding" of the muscles was a prominent feature.

The age of the child, the rigidity of the spinal column with the deformity were diagnostic of Pott's caries or tubercular disease of the spinal column.

The tubercle bacilli probably gained admittance by the alimentary canal, and settling down in the cancellous tissue of the body of one or more vertebræ, produced erosion and softening which resulted in kyphosis.

The cause of the paresis was undoubtedly due to a lesion to the cord.

When paraplegia is due to tubercular disease the effect produced on the cord depends upon the rapidity and acuteness of the process. When the pressure is rapidly developed a sub-acute myelitis ensues, but more often it is of a chronic or sclerosing type. In some cases the cord and nerve roots are pressed upon by inflammatory thickening of the membranes, in others the tubercular process attacks the dura mater and gives rise to the

formation of granulation tissue on its outer aspect, known as "tuberculous pachymeningitis." Again, a collection of pus may form between the bone and the dura and may press the cord back against the laminæ.

The cord is very rarely subjected to pressure as a result of curving of the spine alone, but occasionally a sequestrum becomes displaced backwards and exerts pressure upon it. It sometimes, though rarely, happens that the cord is nipped by sudden displacement of diseased vertebræ.

Usually, in compression of the cord, motor phenomena are more evident than sensory, since the sensory tract lies towards the centre of the cord and is more protected from injury. At first there is some dragging of the toes on walking and loss of power in the legs, combined usually with neuralgia, weakness of the sphincters and exaggeration of the reflexes.

The patient under consideration complains of pain, probably neuralgic, in her knees, which is possibly referred to them from the seat of the disease in her back. In her case, too, the motor phenomena are certainly more pronounced than the sensory.

J. P. Murphy,¹ the renowned American surgeon, says it is impossible to diagnosticate between pressure paralysis and paralysis due to myelitis, except by the progress of the case, but adds that pressure paralysis is much the commoner, an opinion which would be supported by Albee,² as in all the cases operated on by him the paraplegia cleared up in three to five months.

Prognosis.—The prognosis under ideal conditions is favourable unless the disease becomes very rapid, when the phenomena of destruction of the cord, producing complete paralysis, anæsthesia and trophic changes occur. Septic cystitis, nephritis, and bed sores may arise as complications, and if allowed to progress may cause the death of the patient. As in tuberculosis elsewhere, the patient runs the risk of acute miliary tuberculosis, whilst other organs—for instance, the lungs, the kidneys and the brain—may become affected.

Treatment.—Rest in bed with appropriate treatment of the spinal condition, good feeding, administration of tuberculin, might in an hospital for such cases, as that provided by Sir W. Treloar for the poor children of London, prove successful; but in a general ward of a city hospital, even prolonged treatment for a year or more could hardly be regarded as likely to be attended with much success. Absolute immobility of the spine is considered essential. This has been aimed at by means of a plaster jacket or by using a Phelps's box, and keeping the child immobile for twelve months or more. In very young children a double Thomas's splint has been used with success.

Somewhat recently the deformity has been overcome by forcible straightening under an anæsthetic, but although a moderate degree of success has in some cases been thus obtained, many deaths have been the direct result of such procedure.

Laminectomy and costo-transversectomy, with the object of removing the pressure, have shown some brilliant results, but the mortality (50 per cent. in the former)³ does not tend to make these operations gain favour.

The latest surgical treatment for the condition is by an operation which has been performed, mostly in the United States, during the last three years. It consists in notching the spines of the vertebræ, taking a piece out of the tibia and joining it to the notched spines in order to get a bony ankylosis and to prevent further curvature. The principle of the operation is that if a joint be rigidly fixed tuberculosis will disappear.

Dr. Albee, of New York, reports 104 cases of Pott's caries,⁴ some cases with psoas abscess and others with paraplegia, the paralysis cleared up in all cases in from three to five months.

Considering how recently this operation has come into vogue it is impossible to say exactly how far the patient may be benefited thereby, and also to say what will happen as the child becomes older and the vertebræ grow.

The operation above mentioned (Albee's) was per-

formed on the 27th of February, 1914. No mechanical difficulties were encountered, and the patient has so far progressed favourably.

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- ¹ General Surgery, Murphy, Practical Medicine Series, 1908, Vol. II, Pp. 553.
 - ² Surgical Clinics of J. B. Murphy. Vol. II. No. 3. Pp. 455.

³ R. W. Lovett Keen's Surgery. Vol. II.

4 Vide Reference 2.

LITERARY INTELLIGENCE.

Professor W. M. Bayliss has in preparation a new book entitled "Principles of General Physiology." which will be published by Messrs. Longmans & Co. The work will treat of the fundamental properties of animal and vegetable cells and organisms, somewhat on the lines of the "Phénomènes de la Vie," of Cl. Bernard. Special attention will be given to phenomena whose laws are not usually to be found in similar books, such as those of reactions in colloidal systems, oxidation, action on surfaces, as well as to secretion, excitation, inhibition, nutrition, and other more strictly "vital" processes.

Messrs. Butterworth & Co., 4 Bell Yard, Temple Bar, London, are about to publish the new revised and enlarged second edition of "Genito-Urinary Diseases and Syphilis," by Edgar G. Ballenger, M.D., Professor of Genito-Urinary Diseases, Atlanta Medical College, &c. Dr. Ballenger has been assisted by Omar F. Elder, M.D., and J. Edgar Paullin, M.D. The work contains 109 illustrations and 529 pages. Its price is 16s. net. This work is intended for the general practitioner. The writers' aim has been to present fundamental principles. and to enter at the same time into sufficient detail when considering matter of prime importance. Special attention is called to the treatment of incipient gonorrhoa by sealing argyrol in the anterior wrethra with collodion. During the past five years the authors have cured more than 700 cases, with an average of five days or less for each patient. The book is obtainable in India from Butterworth & Co. (India), Ltd., 6 Hastings Street, Calcutta, and in Australia from Butterworth & Co. (Australia), Ltd., 76 Elizabeth Street, Sydney.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Departmental Committee on Tuberculosis. Final Report of the Departmental Committee on Tuberculosis. Vol. II. Appendix presented to Parliament by Command of His Majesty. London: Published by His Majesty's Stationery Office. Printed by Eyre & Spottiswoode. Ltd. 1913. Folio. Pp. 203.

WE have received the Final Report of the Departmental Committee on Tuberculosis, a folio volume of 203 pages. No more disheartening Blue Book has ever come before us. Many pages of memoranda from medical doctors of eminence and other distinguished scientists, and also from societies, appear, and furnish very poor reading. One and all of the writers get away from their subject and keep away from it. We get elaborate details for nursing. dispensaries, notification, sputum flasks and pockethandkerchiefs, and so forth: too often nauseating twaddle. One gentleman writes that when he "began practice, to find evidence of disease of the lung was to despair of the patient's life." The first ray of hope that came into his mind was "the scientific evidence of cures of consumption on the highlands of Peru." His next illumination was the history of the successful treatment of the disease at Mentone; but at Nordrach he cast away the works of darkness and put on the armour of light. But ere this gentleman had left his cradle Stokes had demonstrated that under favourable circumstances consumption was arrested and the patient attained a ripe old age. And fully five and twenty years prior to his getting qualified Boynton had taught at Birmingham and published at Longmans the curative effects of good food and fresh air.

Lynch and others in the west of Ireland had also shown the value of fresh air and good food. Another gentleman cannot understand why the death-rate from tuberculosis in Ireland has risen, since 1864, although he has the social history of the people as a guide. Tuberculosis is essentially a product of poverty and overcrowding, and until these evils are corrected the disease will be rife in our midst.

Tuberculosis got its firm hold on manufacturing centres one hundred years ago when the introduction of steam machinery into the manufacture of textile fabrics displaced the hand loom weaver and enticed his family from village life to manufacturing towns. There children of eight, seven, six, or even five, were employed in factories, working for a wage of 1d. a day! They worked at 8 hour stretches in three gangs, the returned gang sleeping in the beds the outgoing one had left. They were fed and lodged in barracks, and literally died by the thousand until the conditions of their life were ameliorated by the Factory Act of 1833. And as we go through this barren wilderness of figures and quixotic suggestions we cannot see any tangible, workable scheme. What first produced the pandemic of tuberculosis perpetuates it and remains untouched, unremedied, and as lethal as ever. To-day the opportunities for successfully dealing with the plague are more numerous and more potent than ever before. Sunshine and fresh air are, as Boynton taught, essential to life; and so is good food. Children should be kept at school until the fourteenth birthday is passed. Transit to and from all parts of the country exists; electricity is the motor and lighting power of to-day; factories can be built in the country and the factory hands provided with roomy houses; and lastly, the British artisan should be protected from the unfair competition of the dumped over-products of German and American factories. Sanatoriums have the disadvantage that when the patient leaves he leaves to return to the source of his disease, becomes an easy prev to it and an active disseminator of the plague. His only hope of freedom from a fresh attack is to go to a wholesome house situated amid healthy surroundings. A

multitude of sanatoriums and a large army of medical inspectors, with crowds of sanitary officers, tens of thousands of reports and legions of nurses, are of no avail as long as the pestilential slums of Dublin are allowed to remain.

Dental Diseases in Relation to Public Health. By J. SIM WALLACE, D.Sc., M.D., L.D.S.; formerly Dental Surgeon and Lecturer on Dental Surgery, London Hospital. London: Published at the Office of the Dental Record, Alston House, Newman Street, W. 1914. Pp. 90.

Dr. Sim Wallace is already well known as a pioneer in an endeavour to correct the faulty feeding of infants and young children by pointing out how our present methods are largely responsible for the decay of our dental organs. In the work before us, which the author in his preface tells us was published "in order to try to bring home to physiologists and others the importance of a knowledge of the physiology of oral hygiene," attention is drawn to the great prevalence of dental caries, as evidenced by the inspection of school children, and to its serious relationship to general disease. Although we do not see all matters from Dr. Wallace's point of view, yet we thoroughly agree with him in thinking that in attending to the teeth of the nation we are advancing considerably on the road towards preserving its health; more particularly when Dr. Wallace starts with the proposition that dental caries is a preventable disease.

The author makes out a very excellent case for dentistry, in the future, to be an important part of Preventive Medicine, but we cannot quite follow him when he thinks that it can be carried out without the expenditure of public money, for it seems to us that school clinics or some similar public service must be a necessary part of the scheme, and that of course will involve an expenditure of public funds; for, notwith-standing an ideal system of diet and apples galore, there will remain a certain amount of work which must be

carried out by means of operative dentistry, though we sincerely hope and believe that by the adoption of Dr. Wallace's principles the present overwhelming amount of dental disease may be reduced to something that can be successfully grappled with. The author tells us that "the modern methods of prevention have been as astonishingly successful as the remedy is simple, and the parrot's cry that we will not get people to adopt it is belied by the fact that we do get people to adopt it and adopt it most willingly. Certainly children are enthusiastic in its adoption. especially when fresh fruit after meals is supplied them. Moreover, they undoubtedly would prefer that the money, whether taken from the parents' pocket direct or extracted by the State, should be spent on fruit or some cleansing food stuff than that it should be spent on extracting, stopping, or regulating their teeth."

This is certainly good news for both parents and children, and it fairly represents the pith of Dr. Wallace's teaching. We can confidently recommend this little book to all medical and dental practitioners, as it is through them that Dr. Wallace's message should be given to the

general public.

Ulcer of the Stomach. By Charles Bolton, M.D., D.Sc. (Lond.). F.R.C.P. (Lond.): Director of Pathological Studies and Research and Lecturer in General Pathology in University College Hospital Medical School: Physician to University College Hospital. London: Edward Arnold. 1913. Demy 8vo. Pp. xv + 396.

This is a most comprehensive work, and is a monument to the industry of the author. The subject, Ulcer of the Stomach, is discussed from every point of view in full detail. The book is divided into seven parts. Part I. is concerned with definitions and a discussion of the varieties of gastric ulcer; Part II. deals with ætiology, and Part III. with pathology. The description of the pathology of the condition occupies about 130 pages of fairly close print, from which fact the reader can judge of the thoroughness

with which this aspect of gastric ulceration is studied. Part IV. deals with the symptomatology of acute and chronic ulcer; Part V. discusses diagnosis and prognosis; Part VI. is devoted to the different varieties of medical and surgical treatment and to the indications for the same; and Part VII. deals with complications and sequelæ. The book is extremely well illustrated throughout with excellently reproduced photographs and photo-micrographs of actual specimens, illustrating more especially pathological points. Many of these are from the author's own collection, and they include photographs of the ulceration which he has been able to produce experimentally in animals by means of gastrotoxic serums.

Naturally there is not much new to be said on symptomatology and on treatment, as both these subjects have been dealt with in much detail of late by many writers. The actual shapters on these, bowever, are admirable as expositions of our knowledge critically edited by one who has devoted much time and attention to the study of these subjects, both clinically and in the literature. our opinion the main feature of the book, however, is its very careful description of the ætiology and of the pathology of gastric ulceration. No study, nearly so complete, is, as far as we know, in existence, and we think it likely that the book will take its place as a standard work of reference, as far as these parts of it are concerned. This particular portion of the book appeals both to the pathologist and to the clinician, while the remainder is, of course, more particularly written for those in actual practice.

The entire book is well got up as far as style and printing are concerned, and is eminently readable.

Saunders' Descriptive Catalogue of Books. London: W. B. Saunders Company.

This new illustrated catalogue, issued by a well-known Publishing Firm, has been revised to February, 1914. Special pains have been taken to make it, in the truest sense, a descriptive catalogue, and in addition to detailed particulars of Messrs. W. B. Saunders' newest and important publications, the list is rendered the more attractive by the inclusion of specimen cuts, representative of the type of illustrations used.

As an indication of publishing activity, it may be of interest to our readers to know that during the year 1913 W. B. Saunders' Company issued in addition to sixteen new books and twenty-one new editions some seventy reprints of other successful works on their list.

Report on the Health of the Army for the Year 1912. Vol. LIV. London: Harrison & Sons. 1913. 8vo. Pp. vii + 177.

IT would be impossible, in the space at our disposal, to critically examine the immense mass of statistics which this book contains. As it is, the contents are deeply interesting, but not at all gratifying. We find that the army is being replenished with boys from sixteen years and upwards and by dwarfs from 5 feet 3 inches. Of the 47,008 recruits examined during the year 1911-12, 10,519 were rejected on inspection and 662 three months after enlistment as unfit. Sergeant Kite found better men at the Raven in Shrewsbury. Emigration and good trade are still put forward as valid excuses for filling the ranks with such recruits, just as they were year by year for the past decade. These statistics are more significant than they were in the past, for we find that to-day the recruiters are especially instructed to recognise physical disqualifications or signs of disease in those seeking to enlist, and with all this the percentage of rejections is 237.85 per 1,000 of those enlisted, clearly showing that the physical condition of our people is in a deplorable state and urgently calls for physical training. The rate of rejection per 1,000 on inspection for under chest measurement was 29.23; for diseases of the heart, 27.01; and for defect of vision, 21.08. Under the title sanitation we are glad to notice that the authorities at Netley are discarding the absurd filter-candles, which after a little use serve only

to contaminate drinking water, and propose to adopt the chlorine clarifying system, which they credit our American cousins with discovering, but which was the outcome of the work of Bryan Higgins, of Sligo, whose lectures on rain, river, spring, and mineral waters and their impregnations, published by Dodsley in 1766, were the starting point for the work (1814) on the same subject by his distinguished nephew, William Higgins-Irish chemists whose discoveries in chemistry rank with those of Priestley, Lavoisier, Barthelot and Cavendish, are so well told by Dr. W. K. Sullivan, in his biography of the uncle and nephew in our pages of the August number of the second volume of 1848. Biochemical research has not been without effect on the Army Medical College, hence we find that bacon and cheese find now a place in field rationsa valuable addition to the caloric value of the dietary of men on the march.

Unfortunately the mixed ration—meat and vegetables—is still unsolved. We take the liberty of suggesting that the meat and vegetables be supplied separately to the troops. Still more important is the destruction of army biscuits by moths: Ephestia kuhniella and Corcyra cephalonica, which are often present in stored flour, and are possessed of a vitality capable of resisting the heat of cooking the biscuits. The morbidity of the troops, as might be expected in these piping days of peace, is low. Of a total of 107,582—346.4 per 1,000 were admitted to hospital, 2.34 died, 9.37 were invalided, and the average constantly sick was 19.50.

As to the 20,806 troops stationed in Ireland, we are sorry to find that their health was not so good as in 1911, and this is attributed to persistent wet and inclement weather, causing increases in the number of admissions for influenza, rheumatic fever, and respiratory diseases.

The volume is a valuable one to all medical practitioners, but its interminable statistics and its charts showing variations in diseases of the different systems of the body, in which zigzag lines torture the sight and exhaust all patience, would deter a Teufelsdorf from the pursuit of knowledge. When so many puzzles are thus produced they should print the lines of the diseases in bright distinctive colours—the dot and dash system in black and white to demonstrate the views of the editor is an offence to a reader.

RECENT WORKS ON OPHTHALMOLOGY.

- 1. An International System of Ophthalmic Practice. Edited by Walter L. Pyle, A.M., M.D., Philadelphia; Member of the American Ophthalmological Society—Ophthalmic Semiology and Diagnosis by Charles H. Beard, M.D.; Surgeon to the Illinois Charitable Eye and Ear Infirmary (Eye Department): Oculist to the Passavant Memorial Hospital and the North Star Dispensary (Chicago); Member and Ex-President of the Chicago Ophthalmological Society; Member of the American Ophthalmological Society, &c. With thirteen coloured plates and seventy-one figures in the text. London: Rebman, Ltd. 1913. 8vo. Pp. 400.
- 2. Disturbances of the Visual Functions. By Prof. W. Lohmann, Chief Physician to the University Eye Clinic, Munich. Translated by Angus Macnab, M.B., F.R.C.S. (Eng.); Ophthalmic Surgeon to King Edward VII. Hospital, Windsor. Thirty-nine Illustrations in the Text; some in colours. London: John Bale, Sons & Danielsson, Ltd. 1913. Pp. 185.
- 3. The Royal London Ophthalmic Hospital Reports. Volume XIX.; Part II.; January, 1914. Edited by J. Herbert Parsons. Assistant Editor—The Curator. London: J. & A. Churchill.

1. This book is one of a series of volumes intended to form an international system of ophthalmic practice under the general editorship of Dr. Walter L. Pyle.

The volume before us is one on lines quite outside those of the ordinary ophthalmological text-book or manual. Dr. Beard states in his preface that "the nearest approach to a work of this description is to be found in a limited portion of the fourth volume of the French Encyclopedia of Ophthalmology."

The author takes each part of the eye (e.g., conjunctiva, cornea, retina, &c.), and describes in detail the various symptoms of disease which may occur in each part. For example, under the heading "Opacities of the Cornea" are described in detail all the opacities found there; their causes are given; the method of differentiating between them is set forth. Of course the title and scope of the book preclude the addition of treatment. The book deals solely with symptoms and diagnosis. For this reason it will appeal—and deservedly so—to many a general practitioner. He who for example wishes to know something of nystagmus finds in the pages devoted to it all he requires as regards its varieties and causes. To the ophthalmic surgeon it affords a ready and accurate account of the different causes and varieties of any ocular symptom.

The coloured plates in the book and the original drawings of the illustrations, Dr. Beard tells us, have been awarded a diploma of honour by the American Medical Association, and have been generously praised by numerous colleagues. To this praise we would like to add ours, for we do not remember having seen so many excellent illustrations—plain and coloured—in a volume of this size and scope before.

The book may be heartily recommended to practitioners and specialists alike.

2. We feel sure that we are stating a fact that cannot be controverted when we say that this book is unique: certainly as far as the English language is concerned.

It deals with the psychological problems of vision from every point of view, and in such a way that the great erudition of the author is fully displayed. Beginning with "vision and the organ of vision," all the disturbances of central, peripheral, and colour vision; of the light sense; of adaptation; of binocular vision, &c., are treated exhaustively and succinctly. The various theories regarding not alone the disturbances of vision, but also the

physiological acts of vision, are set forth most fully, and display an amazing amount of research and knowledge, not merely of ophthalmology but of pyschology and of the literature of the world. Many are the quotations from German, English, and Latin poets.

The very nature of the subjects treated of renders the translator's task a very difficult one. But we may heartily congratulate Mr. Macnab on the accomplishment of his task.

Psychologists and ophthalmic surgeons will find a vast amount of very interesting facts and theories gathered together in this thin volume.

3. This part of the Royal London Ophthalmic Hospital Reports has a melancholy interest in that it contains probably the last paper contributed by the late Edward Nettleship—"A Note on the Progress of some Cases of Retinitis Pigmentosa sine Pigmento and of Retinitis Punctata Albescens." The most interesting point in this paper is the fact that one of the cases of retinitis punctata albescens, watched during a period of eighteen years, finally presented a typical picture of choroidal sclerosis and commencing typical retinitis pigmentosa.

Mr. C. H. Usher contributes a long article on the inheritance of retinitis pigmentosa with many pedigrees, and there are shorter articles on primary new growths of the lacrymal gland (R. A. Greeves): on Notes from Clinical Demonstrations (A. C. Hudson); on the Influence of Illumination or Visual Activity, and the Visual Discrimination of Two Points by J. Herbert Parsons.

This volume is, as usual, full of interest to ophthalmic surgeons; and an excellent portrait of the late Edward Nettleship forms the frontispiece.

Annales de Médecine. No. 1. Janvier, 1914. Paris : Masson et Compagnie. Demy 8vo. Pp. 27.

WE have received the first number of the new French medical monthly Annales de Médecine. It contains

original articles and reviews of new books, but no selections from other medical journals, either home or foreign. The editorial staff consists of MM. Bernard, Guillain, Rist, Bezancon, Labbé and Roussy. The original articles include one on the pathology of hæmolytic icterus, by M. A. Chauffard: one by MM. Marie and Lhermitte on lesions of progressive chronic chorea, illustrated in black and white and colours. M. Ravant writes on the diagnosis of syphilis of the nervous system, and M. H. Rubens Duval contributes a suggestive and deeply interesting article on the spontaneous defence of the organism to the spread of cancer. The number also contains an excellent critical review on the subject of infectious pleuro-pneumonic congestion. Beautifully printed on good glazed paper, 8vo size, and freely and exquisitely illustrated, particularly by coloured plates, this monthly attracts notice, and the excellence of its contents should ensure subscribers. We wish our contemporary a long and successful career.

The Sanitary Inspector's Handbook. By Albert Taylor, Sanitary Inspector, City of Westminster; Late Demonstrator to the Students of the Royal Sanitary Institute; Late Chief Sanitary Inspector to the Vestry of St. George, Hanover Square, London; Formerly Chief Inspector of Nuisances, Wigan; and Sanitary Inspector, Wallasey. Fifth Edition. With Illustrations. London: H. K. Lewis. 1914. Cr. 8vo. Pp. xii + 612.

The issue of the fifth edition of this book justifies the high opinion which we have expressed of it in this journal before now. To the sanitary inspector it is invaluable, covering as it does the practical aspects of sanitary science as they come within the sphere of the inspector's duties. To the candidate for the Diploma in Public Health it should prove useful also, as points of procedure are dealt with in more detail than they are in the standard handbooks on hygiene.

The author states expressly that the work is intended as "a practical book of experience upon subjects relative to the duties to be performed by sanitary inspectors in England and Scotland." We wish that he could have extended its scope so that he might have included Ireland also. In regard to the provisions of the various Acts of Parliament which deal with public health matters, we miss reference to the measures which have special application to this country.

We have nothing but praise, however, for the matter contained in this book, written by one who has had a lifelong experience in practical sanitary administration, who knows the difficulties which the inspector meets with in his daily work and the means by which he can cope with them most efficiently.

Saint Thomas's Hospital Reports. New Series. Edited by Dr. J. J. Perkins and Mr. C. A. Ballance. Vol. XL. London: J. & A. Churchill. MDCCCCXIII. Demy 8vo. Pp. xii + 217.

Or all our medical annuals none are more instructive or interesting than the reports of the great hospitals of London. They are of permanent value as reflecting the morbidity and casuality of the years of their issue and of the state of medicine as practised by the most distinguished clinicians of their day.

This, the fortieth volume of the new series of Saint Thomas's Hospital, contains eleven reports, of which the combined medical, surgical and gynaecological one occupies rather more than half the book; and is followed by reports on operations, obstetrics, ophthalmology, dermatology, laryngology, otology, and so forth. Special mention is, however, due to the Salter Research Report, on the action of certain drugs, toxic bodies, toxins, and muco-organisms on the fragility of the red blood corpuscles of man and animals, by Mr. W. W. C. Topley, which may be considered as a continuation of the valuable researches on the action of splenotoxic and hamatolytic serums on blood, conducted by Messrs. Dudgeon, Panton and Ross, in the pathological laboratories of Saint Thomas's Hospital in 1908, which

were published in the Transactions of the Royal Society of Medicine. Mr. Topley's paper treats very fully of arsenical compounds, and is of much practical value to clinicians who prescribe dioxy-diamido-arsenobenzol, better known as salvarsan.

We have but one objection to the report—it is dry as dust, statistics follow statistics until the brain becomes wearied, and the volume is perforce laid aside. It should be possible to make the book readable. We would like to get some clinical sketches of the more interesting cases; some hint as to the value of our better known therapeutic remedies, some information on the relative values of the better known analgesic and anæsthetic agents: an occasional oasis in the desert of statistics where the brain might find a Beulah ere it completed its task. The editors have provided a wealth of information excellently arranged and classified and well adapted for reference; but we do not like to get our food in tablet form; the quintessence of Co. Meath beef in five-grain compressed tablets is not as appetizing or nourishing as a broiled steak.

Electro-Pathology and Therapeutics. An Account of Many Years' Research Work, the Discovery of the Electro-Pathology of Local Pyrexia and of an Effective Means of Staying Inflammation. By Arthur E. Baines, Sometime Editor of the "Electrical Engineer," and Associate Editor of the "Electrician." Together with a Prefatory Treatise upon the Nervous System in its relation to Neuro-Electricity, by F. H. Bowman, D.Sc., F.R.S. (Edin.), M.I.E.E., F.I.C., F.C.S. (Berl.); Straton Prizeman and Gold Medallist in Technology, University of Edinburgh. London: Ewart, Seymour & Co., Ltd. [No date.] Demy 8vo. Pp. 120.

This book is composed of two parts. Part I.. on the nervous system in its relation to neuro-electricity, is written by F. H. Bowman, D.Sc., &c.; Part II., on electropathology and therapeutics, is written by Mr. A. E. Baines.

Part I. is prefatory and, as a brief account by a layman

of the general structure and function of the nervous system, it may be counted fairly accurate.

There are one or two passages which are not very clear to us. Thus (p. 14) in reference to the triple membrane of the brain we read that "this triple type of membrane is reproduced in all the external surfaces of the body, such as the skin," &c., &c.; and on p. 15:- "The liquid contents of the nerve substance are greater than that of the covering membrane, and the liquid cells are always ionised." Of much more importance, however, is the dogmatic statement on p. 19 "that a rise in the temperature of the blood at once renders these phagocytes sluggish and, in proportion to the rise, incapable of performing their proper function, while it renders the diseased germs more active. Now, as the greater part of the treatment in Part II, seems to be founded on this conception, we feel that the reader is entitled to some proof of such a very wide statement—one with which we cannot agree.

We hesitate to criticise Dr. Bowman on a matter of physics, but his definition of electrons as bodies having a mass $\frac{1}{1000}$ that of the hydrogen atom and ions as "free electrons in gases, liquids or solids" [the italics are ours], gives a meaning to electrons which is quite at variance with that commonly accepted, while it appears to confuse the two senses in which unfortunately the word ion is used.

The second portion of the book deals with a method of diagnosticating disease by measuring with very delicate instruments the leakage of neuro-electricity at the affected part, and a method of cure by application of a suitable dielectric to prevent such leakage. We are not in a position to deny the existence of these neuro-electrical currents from brain to periphery of which Mr. Baines treats, but we cannot feel convinced by his account of them. Mr. Baines deals with the contradictory results in electrotherapy and electro-physiology of such men as Galvani, Volta, Humboldt. Du Bois-Reymond and Professor Trowbridge, and remarks, we think with some humour, that the reason of their failure was (first) "because they were not any of them trained submarine cable electricians."

He then explains how this training enabled him to make his own discoveries.

However, whatever be the truth as regards Mr. Baines' discoveries in neuro-physiology, his whole method of treatment is based on a misconception. He seems to think that pyrexia and inflammation are the disease, and that to prevent one or other is to cure the disease. "Temperature acts upon the nerve sheaths . . . by breaking down the resistance so as to cause a leakage." "What is wanted is a harmless insoluble and undecomposable fluid of very great penetrative power, and high resistance . . . to stop the leak."

Naïvely the author adds: "In pneumonia there is the additional difficulty of the bacilli, but they can be rendered inert by the process of staying and curing the inflammation."

Mr. Baines confesses to astonishment at the statement that "it is impossible to fix with anything more than approximate certainty the seat . . . of the morbid process in diseases of the brain." In some forty cases submitted to him he has been invariably able to locate and determine the nature and area of the fault. A few pages later, describing a case of paralysis of the left leg and foot, he locates the affected spot as "slightly to the right and rear of the centre of the cranium!" Mr. Baines regales us with accounts of the marvellous result of his treatment in such varied diseases as tuberculosis, pneumonia, paralysis, neurasthenia, epilepsy, cancer, and diseases of the ear, and explains a certain method for determining death.

The curative remedy for disease is a dielectric which is not disclosed to the public, but of which any member of the medical profession can have the formula on application. For ourselves we have not thought well to apply. There is something delightfully naïve about the second portion of this book, but it is marred by the manner in which Mr. Baines appears to go out of his way to split his infinitives.

The glossary contains the astounding statement that "tubercle" means "a small tube or duct." Reference

is given to p. 74. We thought "tubule" had been intended, but this word does not occur on p. 74, whereas tubercle does.

Treatise on Diseases of the Skin for the Use of Advanced Students and Practitioners. By Henry W. Stelwagon, M.D., Ph.D.; Professor of Dermatology in the Jefferson Medical College, Philadelphia; Dermatologist to the Philadelphia Hospital, &c., &c. Seventh Edition, thoroughly revised. Philadelphia and London: W. B. Saunders Company. 1914. 8vo. Pp. 1250.

In our notice of the sixth edition of Dr. Stelwagon's work (Vol. 131, third series, No. 472, April, 1911, page 272), we described it as "a thoroughly reliable, up-to-date, and comprehensive text-book."

A reference to the present seventh edition will show the reader that the author has done full justice to the advances which dermatology in common with other branches of Medicine has made in the last three years. The work contains 1,250 large octavo pages compared with 1,105 in the previous edition, and this notwithstanding the fact that considerable and judicious pruning has taken place, much matter that was old and more or less obsolete having been cut out.

Recent investigations in connection with syphilis, leprosy, sporotrichosis, pellagra, ringworm, and certain tropical affections have been carefully noted by the author and laid under contribution. Among newly recognised disorders which find a place for the first time in the work may be mentioned prurigo nodularis (first described by Hardaway in the Archives of Dermatology, 1880, under the expressive title "multiple tumours of the skin accompanied by intense itching "); granuloma pyogenicum, a rare affection caused by the Staphylococcus pyogenes qureus, but originally (1897) regarded by the French dermatologists Poncet and Dor as human botryomycosis; multiple benign sarcoid, to which attention was first directed by Boeck in a notable paper published in 1897 (cf. Journal of Cutaneous Diseases, 1899, page 543); and keratosis blenorrhagica—a rare condition of the skin associated with gonorrheal arthritis, and first described by Vidal in 1893.

A leading feature in the work is the copiousness with which it is illustrated. There are 334 illustrations in the text, besides 33 full-page coloured and half-tone plates. About 40 new cuts have been added in the present edition. They include several illustrations of the terrible neoplasm "lepra." Prurigo nodularis, lupus vulgaris, Oriental sore, dermatitis vegetans, annular syphiloderm, the ring type of impetigo contagiosa, and cultures of the Microsporon Audouini on maltose proof medium at fifteen and twenty days from Dr. R. Sabouraud's work Les Teignes—all these important subjects are also well illustrated.

Enough has been stated to show that the favourable opinion which we formed of Dr. Stelwagon's work in 1911 remains unchanged, and that we still look upon it as "a most excellent book, well written, and eminently helpful in regard to diagnosis and practice."

Clinical Pathology. By P. N. PANTON, M.A., M.B., B.L., Cantab., &c. London: J. & A. Churchill. 1913. Demy 8vp. Pp., ix. +446.

This is a book which will quickly find its place in all clinical laboratories; its need, we are sure, has often been felt. The author describes shortly and clearly the best method for giving the clinician the help he needs. There is no unnecessary multiplication of methods-one or at most two, and these well tried, are given with excellent detail and ample help with regard to technique, the essential point omitted in many larger works. The book is divided into eight sections, which cover the Clinical Pathology of the Blood, Bacteriology, Puncture Fluids, Urine, Alimentary Tract, Eye and Skin, Respiratory Apparatus, and Histological Diagnosis. The illustrations of the blood diseases are very good, and give the picture seen with Leishman's stain, which is an advantage for the clinician and hospital pathologist, who have not the necessities for more elaborate stains. The bacteriological section is well done and amply illustrated. The clinical examination of the urine is given fully. A short terminal section deals with the more common histological appearances with which the pathologist has to deal. The text is well written, and no detail is omitted; the index leaves nothing to be desired. The author has produced a most valuable book and has accomplished that in which more elaborate books have failed—detailed description of technique.

Glycosuria and Allied Conditions. By P. J. CAMMIDGE, M.D. (Lond.) London: Edward Arnold. 1913. Demy 8vo. Pp. vii. +467.

Dr. Cammidge has collected under this head an enormous amount of information, the result of many years work on the subject of the pancreas. There is a long description of all the quantitative tests used for the detection of glucose and to this is added a list of the confirmatory tests employed. The differential tests are also given fully. The quantitative estimations are equally fully given. In the same chapter there is also a full description of the quantitative methods for the estimation of the bi-products of metabolism in diabetes. The other carbo-hydrates occasionally found in urine—lactose, maltose and pentose are elaborately treated. The chapter dealing with persistent glycosuria is divided into sections which deal respectively with urinary changes, clinical symptoms, pathology and diagnosis, metabolism, treatment and prognosis. The chapter on metabolism goes minutely into the physiology of diabetes, giving tables and curves. Diets are laid down in full in the chapter on treatment. These are very good. They are given in detail and are not a mere list of admissible and inadmissible foods. There is an appendix which details the chemistry of the subject —this is for the use of the pure chemist rather than for the clinician. The list of authorities quoted shews what a prolific subject glycosuria is, and we must thank the author for giving us a succinct account of the subject in so small a space. The present work gives all the required information as well as we could wish to have it done.

PART III. MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Walter G. Smith, M.D., F.R.C.P.I. General Secretary—J. A. Scott, M.D., F.R.C.S.I.

SECTION OF OBSTETRICS.

President—M. J. Gibson, M.D. Sectional Secretary—Gibbon FitzGibbon, M.D.

Friday, December 12, 1913.

THE PRESIDENT in the Chair.

Carcinoma of Tube and Ovary.

Dr. Gibbon Fitzgibbon showed a specimen which consisted of the left tube, the right ovary, and the uterus. history of the case is: -Mrs. O. D., aged forty, 2-para, five years since last confinement. In November, 1912, the patient was first seen, complaining of profuse metrorrhagia which had been occurring every fortnight or three weeks for about three months, and lasting ten to twelve days. She was admitted to hospital and curetted for the purpose of diagnosis as possible carcinoma of the uterus. At this time the uterus was very little enlarged, the cavity was 34 inches with nothing abnormal to be felt in its shape. appendages were apparently normal. She left hospital in twelve days, and when seen two months later the menses had occurred normally twice since the curettage. She remained quite well till July, 1913, when she commenced to have pains in pelvis and abdomen, but did not come to be seen till October, 1913. When seen in October she was looking very ill, had evidently lost a lot of flesh, and was very anæmic. On examination a tumour was found in the middle line reaching to within one inch of the umbilicus. The uterus could not be definitely separated from this tumour, and there was a large mass behind the uterus filling Douglas's pouch and rather fixed, but separate from the tumour in front. The condition suggested multiple fibroids, except that the front tumour was distinctly cystic. At the operation the right ovary was found cystic, about the size of a feetal head, and adherent to the fundus of the uterus and intestines. This was first removed, and then the left tube, which was enlarged to about the size of an elongated cricket ball, was found adherent to Douglas's pouch; when this was removed a hard nodule was found in the bottom of the pouch and connected with the cervix, and as it seemed rather suspicious it was decided to do an hysterectomy; this was done as low down as necessary on the vagina to get below the nodule, and when the posterior wall of the vagina was divided it was found that the nodule was adherent to the rectum, requiring the removal of a piece of bowel about the size of a shilling. The nodule was growing from the cervix extra-peritoneal. The overv showed pathologically a carcinoma of a squamous type and rather suggestive of sarcoma. The tube was solid and proved to be a columnar carcinoma quite unlike the ovary. The nodule on the uterus rather resembled the ovarian cancer. The combination of two distinct types of cancer in the tube and ovary at the same time is curious, and the third centre of disease in the uterus resembling the ovarian cancer, which was completely removed from the region of the uterine disease, raises the question of the origin—whether the uterine or ovarian condition was primary to the other or were they two independent growths. The whole case is of interest from the rapidity of the growth, for there was no suspicion of any growth twelve months previously—the only suggestion being an early carcinoma of the body of the uterus. The patient left hospital in five weeks in better health, but her convalescence was greatly delayed by severe broncho-pneumonia and pleurisy. There is very little hope that the whole disease could have been eradicated.

Dr. E. H. Tweedy considered that Dr. FitzGibbon took too gloomy a view of the result in this case. From the appearance of the specimen it seemed that the tumour was got out very well, and as there had been a great deal of in-

flammation round it he thought it unlikely that the disease would rapidly spread. He expressed the opinion that the patient would not have a recurrence for a long period.

SIR WILLIAM SMYLY agreed with Dr. Tweedy's opinion, but suggested that the patient should look out for recurrence in the rectum.

Dr. FitzGibbon, replying to the remarks, said that his reason for taking such a gloomy view of the result in this case was the apparently very rapid growth of the cancer—from its microscopic appearance it evidently was a very rapidly growing one. He also mentioned that he had found small nodules on the back of the bladder and the peritoneum. His reason for doing hysterectomy was that it seemed to be an absolutely independent condition to what one might expect from the disease of the tube, and it was extra-peritoneal.

Strangulated Pyosalpinx.

THE PRESIDENT showed a specimen of strangulated pyosalpinx of large size. The symptoms developed suddenly, evidently as a result of the sudden strangulation. The condition was probably of tubercular origin.

SIR WILLIAM SMYLY asked if the pus was examined for tubercle bacilli. The fact that the patient had no symptoms until the tube became twisted would bear out the idea of tubercle; if they were tubes which had become infected, otherwise he considered there would have been symptoms. He had seen twisted tubes before, but when he got them they were of old standing. He had never met with a case of acute strangulation.

DR. Spencer Sheill considered the weight of evidence in favour of tubercular tubes, but failed to see how the condition was brought about without some disturbance of function in ovaries and uterus. He suggested investigation of the patient's history for such disturbance.

Notes of some recent cases presenting points of special interest.

DR. SPENCER SHEILL read notes and observations on several cases, including eclampsia; epidemic gastro-enteritis in infants with reference to the milk supply as a cause of the condition; depressed fracture caused by contracted pelvis during labour and the method of raising the depression with bullet forceps.

Dr. Tweedy said he would like to hear Dr. Sheill's views regarding bleeding as a treatment for eclampsia. He had never been able to see the rationale of this. It had been suggested that it removed poisons from the blood, but this he considered hypothetical. It was mentioned that the patient's urine contained blood, and also that she was passing urine copiously at first; putting these two facts together he suggested that the blood resulted from kidney inflammation, the result of concentrated and poisonous urine. He submitted that even theoretically there was no reasonable foundation for bleeding unless an equal amount of fluid was put back. Saline fluid seemed to him to be the most misplaced thing that could be introduced into the system under such circumstances. A salt-free diet was considered good for certain inflamed conditions of the kidney, and yet it was suggested in this case to deliberately introduce salt. It appeared to him more reasonable to dilute the fluid put into the blood in such a case with carbonate of sodium.

With respect to the fracture of the skull he thought that the difficulty experienced was due to the bullet-forceps not being sharp enough. He mentioned a case in which he removed a very deep depression in the skull of a child, aged two years, with the assistance of three bullet-forceps, all three being pulled upon at the same time.

SIR WILLIAM SMYLY referred to a series of pictures of bottle dairying which he had recently seen; the system appeared to be perfect, and he wondered something of the sort was not introduced into this country. He had never seen any reason to believe in the theories put forward regard-

ing maternal impressions.

He believed in the bleeding treatment for eclampsia. It had always been well spoken of by those who had experience of it. He suggested that in eclampsia it was known that the blood was of high specific gravity and contained less water than usual; that it clots all over the body, and that the arterial tension is very high and patients often die of apoplexy. Bleeding made the blood thinner and less liable to clot. The arterial tension is reduced and apoplexy prevented. He considered the great difficulty in knowing anything about the treatment of eclampsia was that even with an enormous number of cases no very definite conclusions could be formed. He did not consider that sweating and bleeding were at all the same. He looked upon sweating in

these cases as bad because it removed fluid from the body when the blood was already too thick.

Dr. Solomons considered that one of the most interesting points raised in the paper was the treatment of eclampsia in private practice. There was no doubt that a maternity hospital was the best place for these cases in order to ensure a satisfactory result, and unless the practitioner could devote all his time to the eclamptic patient she should be sent to one of these institutions. He wished to know if the infant in Dr. Sheill's case showed signs of convulsions. It was probably a coincidence that he had seen eclampsia developing in several patients who had become pregnant after operation for sterility, and he suggested the possibility in the future of some test in order to find the fitness or unfitness for pregnancy of sterile women. He still used scopolamine-morphine anæsthesia where the case was suitable and there was a reliable nurse. He was somewhat diffident about vaccination, as he had seen various minor ailments develop after a careful aseptic inoculation. He had always attributed to Dr. Tweedy the bullet-forceps method of raising a depressed fracture of the skull. As regards maternal impressions. Dr. Wrench, in his work, "The Healthy Marriage," advised that pregnant women should live in the happiest surroundings in order to bear a happy child. He (Dr. Solomons), in common with many authors, believed strongly in this advice.

Concerning the fatal case of ether poisoning he wished to know if N₂O had been administered beforehand, and if mouth to mouth insufflation was tried.

DR. FITZGIBBON agreed with bleeding in eclampsia if used in suitable cases. A large number of cases occur in full-blooded women, and such react favourably. The system of introducing saline under the breast had the effect of lowering the specific gravity of the blood. He considered that Dr. Sheill took too severe a view of the responsibility of the medical profession as regards contaminated milk. Both summers referred to by him were somewhat similar in the matter of temperature, and also in the difficulty of keeping milk; he did not hold with the idea that most of the cases of enteritis resulted from the milk as supplied by the dairies. He experienced several cases in which he attributed the infection to the way in which the milk was kept in the household, and suggested that much of the con-

tamination took place after the milk was received into the house. He considered that more could be done by educating the public than by attacking the dairies, although he recognised that the latter were far from perfect, and could be very greatly improved by enforced supervision.

Dr. Rowlette, referring to the serious outbreaks of gastroenteritis, said he believed that most of the disease was due to contamination of the milk after it left the dairy. He attributed the disease to two factors—contamination by flies and contamination by dust. The suggestion of conveying the milk in sealed bottles he looked upon as impracticable for the poorer classes, but considered the matter should be taken in hand by the public health authorities, and that rubbish heaps should be cleared away from the back lanes and courts of the city, and that the streets should be kept clean.

Dr. Trevor Smith drew attention to the difficulty sometimes of bleeding patients suffering from eclampsia. He recognised that where the right side of the heart was overloaded, bleeding was of the greatest use. Referring to vaccination he was of opinion that it occasionally did immediate good, whereas it was never harmful provided, of course, the usual precautions were adopted.

Dr. Sheill said that in the majority of forceps cases great strength was not called for-it was more a question of method. He considered that the high forceps in his case was justified, and did not regard the results following publictomy as so favourable that forceps might not have been tried first. He mentioned that none of the cases of eclampsia he had seen ever suffered from post-partum hæmorrhage. As to the difficulty in getting the blood to flow he thought once the vein was found this disappeared. He recognised that the milk supplied was contaminated before reaching the consumer, but he also thought it got very much more contaminated afterwards; and even supposing the milk to be supplied sterile to the consumer one fly might introduce sufficient damage to kill any child. He inquired what amount of urea Dr. Ashe expected to find in the urine when tested in these cases. He (Dr. Sheill) looked upon the proportion of ammonium as more important. He did not agree that the putting of saline in under the breast had the same effect as bleeding, as saline absorbed into the blood might be as rapidly excreted, whereas in the treatment recommended

of bleeding, some of the solid matter of the blood was withdrawn and also some of the poisons. He was convinced that the blood in these cases was toxic, and that the removal of some of it would reduce the pressure and also some of the toxins. Altogether he thought that the weight of evidence went to show that bleeding in eclampsia was a good procedure. In the fatal case the ether was given in the ordinary way without nitrous oxide and the total amount of other was never up to that marked "full" on the Clover's inhaler. Everything that could be thought of was done for the patient, and mouth to mouth insufflation was done regularly for over an hour. He looked upon elderly primaparæ, amongst others, as suitable cases for scopolamine-morphine anæsthesia. He considered that an operation performed for sterility had no influence in the development of eclampsia when a pregnancy supervened.

SECTION OF SURGERY.

President—R. D. Purefoy, M.D., P.R.C.S.I. Sectional Secretary—C. A. Ball, M.D., F.R.C.S.I.

Friday, January 9, 1914.

THE PRESIDENT in the Chair.

(a) Cancer of Rectum; (b) Cancer of Sigmoid; (c) Sarcoma of Ileo-cæcal Region.

Mr. Seton Princle showed three examples of operation for disease of the bowel. The first specimen showed an excavating ulcer at the lower end of the bowel: it was carcinoma of the rectum, and was removed by the combined abdominal and peritoneal method. The patient was a man of sixty-five. The second specimen was a ring stricture of the sigmoid. The case came to him as one of acute obstruction, and the bowel was resected three days later, and the patient is now doing well. The third specimen was sarcoma of the small intestine close to the ileo-cæcal valve. The patient was aged sixty-five; when first seen it was thought that he was suffering from cancer of the cæcum. Radical operation was done and several feet of the ileum were removed and an anastomosis was made between the ileum and the transverse colon.

The patient is now out of hospital and is gathering strength, but is being injected with antimeristem.

Mr. Stokes inquired what "antimeristem "was"

The President asked the age of the patient from whom the cancerous cæcum was removed, and how long the symptoms of obstruction continued before there was anything in the case to point to more than increasing constipation. He considered there was much difficulty in trying to decide in such cases as to whether there was really malignant disease.

Mr. Pearson inquired what determined Mr. Pringle in the case of acute obstruction to do a typhlostomy, as the contents of the bowel from the cæcum were extremely irritating to the skin. He indicated that he would have preferred to do a colostomy in the transverse colon.

Mr. Blayney mentioned a case of acute obstruction which was at present under his charge, and said that in dealing with such cases a very distended abdomen is usually met with, and the operator has no means of determining what the position of the growth is, and he suggested that the first thing that should be done was to make an incision in the middle line. He had experienced no irritation of the skin after typhlostomy, although such might be expected.

Professor Taylor considered the specimens of very great surgical interest. Referring to the first specimen he thought that in cases of cancer, where obstruction is present in the large bowel, the procedure mentioned by Mr. Blavney was the best, i.e., to deal with the obstruction by means of a temporary opening in the cæcum. He agreed that the cæcum was always very much distended in these cases. He could speak from some experience of the very beneficial effects of a typhlostomy preliminary to the major operation. He inquired as to the scope of the resection operation and pointed out that one might deal with stricture of the sigmoid with a certain amount of bowel at each side of and a corresponding amount of mesenteric tissue, or it might be dealt with by a large amount of bowel and the removal of a much larger lymphatic area. He asked if Mr. Pringle made it a practice to carry out this wide extirpation of these lymphatic glands.

Mr. W. I. DE C. Wheeler mentioned that five years ago he advocated drainage of the intestine through the execum,

and he had since no reason to regret this. He could never see any practical objection to typhlostomy, notwithstanding anything that has been said in the text books.

MR. PRINGLE, in replying to the remarks, said that the age of the patient referred to by the President was sixty-two. He had increasing constipation for a year, and there was obstruction for over ten days. There was no question as to the diagnosis. He suggested that an aid in such cases was the administration by mouth of a bismuth meal, supplemented by bismuth given through a tube. Another method was the use of the sigmoidoscope. He had found the latter to be quite safe. Regarding typhlostomy he would always do it when there was a chance of carrying out a radical operation. He had not found that it gave rise to irritation. He recognised the necessity for dealing with as wide a lymphatic area as possible, and thought that a cordlike stricture, such as that shown, was very likely due to malignant growth. He explained that antimeristem was of the nature of a vaccine.

(a) Complete Colectomy; (b) Sarcoma of Thigh; (c) Cancer of Stomach (age twenty-seven).

Mr. W. I. de C. Wheeler said that the first specimen was a colon removed for mucous colitis. The patient was operated on twice before the colon was removed. Sections were made of the specimen, but there was nothing pathological to be found. The second specimen was taken from a patient aged fifty-five years who had a lump in his thigh which was removed, and proved to be spindle-celled sarcoma. The interest of the case was what was going to happen to the patient. The third specimen was taken from a patient aged twenty-seven. He did not like to diagnosticate cancer on account of the patient's age, but found marked carcinoma on the lesser curvature of the stomach. He considered the prognosis was very bad.

Mr. Ball mentioned a case of spindle-celled sarcoma in which the patient complained of an abscess in the thigh. This was opened, and it seemed to be something into which a hæmorrhage had taken place. The pathological report was that it was a fibroma into which a hæmorrhage had taken place. Six months afterwards a small hard lump occurred in the thigh; this was removed and found to be a spindle-

celled sarcoma. It again recurred on two occasions, but the patient recovered, and is well now for over three years.

Mr. Pearson asked had the sarcoma any attachment with the bone, and what determined Mr. Wheeler in doing a wide local removal.

The President, referring to the case of mucous colitis, inquired what was the prognosis as to the improvement in the general health of the patient. He remarked that these were shocking cases to have to deal with, but he thought he could recall some in which the condition disappeared. However the intractable nature of the malady has been long recognised.

Mr. Wheeler, replying to the remarks, said that the patient had no mucous colitis now, and, as far as the bowels were concerned, they were regular. He had been treating the case for a couple of years before doing the colotomy. He had presupposed sarcoma and removed it widely. It had no attachment to the periosteum.

Radical Operation for Chronic Ostcomyclitis.

Mr. Seton Princle read a communication on this subject. He first called attention to the unsatisfactory results obtained by the old "gutter" operation. He stated that he believed the cause of persistent sinuses after this operation was the fact that a cavity was left with hard bony walls which could not fall in and assist in obliteration of the space left. The operation he advocated consisted in the removal of the greater part of the shaft of the bone in such a way that the soft tissues were able to fall in and obliterate any cavity left. In some cases he advocated the complete sub-periosteal resection of the shaft of the bone. He gave notes on some fine cases in which one or other operation had been carried out, illustrating the cases by lantern slides from x-ray photographs of the bones.

Mr. Blayney said that he considered this the most important paper read at this section of the Academy for some time past, as it represented a definite step in the treatment of those cases, which, on account of the prolonged treatment necessary, were very troublesome. He mentioned that since he had first heard of the procedure he had been carrying out the operation with very satisfactory results. He agreed that granulation tissue had a very limited growth.

and it, therefore, took a very long time for a cavity in the bone to fill up, and that this operation did away with the necessity for the production of much granulation tissue.

MR. W. I. DE C. WHEELER congratulated Mr. Pringle, and said he had an opportunity of seeing a good many of the operations performed, and had recently adopted the method in the case of a man suffering from chronic disease of the tibia, and although there was a fracture in the strip of the bone left it gave rise to no trouble afterwards. He was extremely interested in the resection of the bone, as he had been carrying out this in children. He pointed out that he had demonstrated that the periosteum does form bone in children, and the process can be seen in x-ray photographs.

Mr. Crawford said that he was particularly interested in the case where the disease spread to the epiphysis, as he had experience of four cases in which he found that the dead bone extended to the end, and that in every case there was a large cavity. He mentioned that in one of the cases he had to operate three times, and that it took from one to two months to heal.

Mr. Stokes asked if there were any cases recorded in which the periosteum failed to reproduce bone.

Mr. Blayney remarked that in the cases referred to it would be almost impossible to test the periosteum, as it was difficult to peel it off without bringing away some scales of bone with it.

Mr. Pearson said he thought the periosteum was to be regarded as bone surface. He recalled a case in which there was no necessity for peeling off the periosteum at all, and the entire wound was healed in four weeks. There were no scales in that periosteum, and the x-ray photographs, taken five years afterwards, showed complete re-formation of bone.

MR. PRINGLE, replying to the remarks, said he thought that in childhood a certain number of osteo-blasts might be found lying in the periosteum. As a matter of fact, in the case shown when the upper end of the shaft was cut it pulled itself out, but chips of bone might have been left. There was no doubt that in some cases the periosteum failed to regenerate bone. This was possible in very chronic tubercular cases, as the osteo-blasts may become destroyed, but in the majority of cases the periosteum seems to regenerate bone.

He had seen Mr. Wheeler's cases, and it was agreed that there was slight shortening. He had no hesitation in removing the whole length of the bone in young persons if he could not find a normal strip. In one case he had a fracture but it reunited, and there was some shortening. Referring to Mr. Crawford's difficulty, in a great majority of such cases he had seen chronic inflammation of the knee joint, and in one such he had endeavoured to fill in the cavity by pushing in the tissue to facilitate healing.

Note of a Case of Stone and Tumour in the same Kidney. Mr. C. Arthur Ball described a case in which he had removed a kidney with a tumour and a stone. He stated that the patient, a man aged forty-five, had complained for two years of a more or less continuous pain in the region of the right kidney. On two occasions he had passed blood. the first about two years ago; the second a few days before he came to town for treatment. On examination.—The only point of note was a slight but decided tenderness when the right kindney was palpated. The urine contained no blood, pus, albumen, or tubercle bacilli, and beyond a few uric acid crystals nothing abnormal was made out miscroscopically. An x-ray examination showed a small calculus in the pelvis of the kidney. The kidney was, therefore, exposed by an extra-peritoneal incision with a view to removal of the stone, and a tumour was found on the convex border of the kidney, which was therefore removed with the stone in situ. The tumour was microscopically a cystadenoma.

Mr. Wheeler asked if the incision which Mr. Ball had described some time ago was used in this case. He mentioned that he had used it recently and found it most satisfactory. He was greatly struck by the ease with which the kidney can be got at by this means, and he had found no difficulty in removing the appendix at the completion of the operation.

MR. PRINGLE, referring to the difficulty of passing the catheter past the brim of the pelvis, said this was a difficulty which was commonly met with in a normal ureter and had no significance. He suggested that if the catheter met with a stone the patient would experience pain. He mentioned a case in which he removed a calculus and the left kidney, and some years afterwards the patient came back with calculus in the right kidney. The calculus in the right kidney

afterwards recurred and was again removed. He had seen the patient again, and thought it probable that he had another stone, but he did not intend doing another operation, as he considers that a certain amount of kidney was destroyed each time.

THE PRESIDENT said this was described as a cystadenoma which recalled a case to his mind of a large abdominal tumour which he had met with in the Rotunda. He commenced the operation thinking that it was an ovarian cyst, but it proved to be a cystadenoma of the left kidney. Mr. Ball's patient was to be congratulated on having the cyst removed when it was of small size. He remarked that it was very significant how long life may be prolonged while there is even a small healthy portion of the kidney left to secrete urine.

Mr. Ball, replying to the remarks, suggested that Mr. Pringle should take the remaining stone out of his patient's kidney, as he had experience of a case in which the operation had been done three or four times without doing the patient any harm. In the case reported he made anterior lumboiliac incision for the removal of the stone, so the nephrectomy was easy, as this is the incision he always used for nephrectomy.

Intestinal Evacuating Trough.

MR. H. DE L. CRAWFORD demonstrated an intestinal drainage trough planned as an effectual means of quickly emptying an intestine distended with gas and fæces while preserving the surgeon's gloves and the patient's peritoneum from contamination. The apparatus consists of a metal trough closed at one end by a strong rubber dam, the other leading into a funnel attached to a long piece of rubber tubing. Two long intestinal clips rest in notches cut in the wall of the trough, and the whole is supported on two flat plates of metal. A hole is cut centrally in the dam and the assistant presses a distended loop of bowel against this from the outside, so that a portion of the wall protrudes into the vessel. The operator catches this protrusion with the intestinal clips and secures it by slipping their handles into the notches, thus stretching the rubber and providing a watertight contact. The intestine is then emptied and the cut sutured, using a needle holder and tying the sutures with a forceps so that there is no risk of infecting the gloves.

THE PRESIDENT congratulated Mr. Crawford on the contrivance shown for emptying the bowel.

Mr. W. I. de C. Wheeler said that every surgeon recognised that there was a want for an apparatus of this kind, and he considered the idea a very good one, but, of course, he would like to try it several times.

Mr. Stokes mentioned the use of a football bladder and Murphy's button for the same purpose.

THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS, IRELAND, AND THE NATIONAL INSURANCE ACT.

THE following resolutions have been promulgated to the Fellows, Members, and Licentiates of the Royal College of Physicians of Ireland and to the Fellows and Licentiates of the Royal College of Surgeons in Ireland :- Resolved : "That in the opinion of the Royal Colleges of Physicians and Surgeons, Ireland, the existing arrangements for obtaining evidence of incapacity, entitling to benefit under the National Insurance (1911) Act, have given rise to serious abuses. In forming a judgment as to whether a person is 'incapable of work' it is essential, alike in the interests of the public and of the claimant. that the fullest possible information as to the medical condition of the claimant should be before the person whose duty it is to adjudicate on the claim. This information is, as a rule, in the possession only of the claimant's medical attendant. The Colleges are of opinion that medical certificates under the Insurance Act should be accepted only if given by the claimant's medical attendant, if any, unless such medical attendant refuses to certify. If the body claimed against desires to review a certificate, the Colleges are of opinion that the medical referee should have before him the certificate originally given by the claimant's medical attendant, and should give such medical attendant sufficient notice of the time and place of examination, and an opportunity of stating the grounds on which he arrived at the opinion expressed in his certificate." Resolved: "That the manner in which the duties of the office of 'Medical Adviser,' either to the Insurance Commissioners or to Approved Societies, are being discharged at present in many parts of Ireland is contrary to medical ethics, and deserving of punishment by the Colleges."

OSTEOMYELITIS IN CHILDHOOD.

By M. Haller, Interne of the Paris Hospital. Translated from the Gazette des Hôpitaux, No. 43, 85° Année, by George Mahood Foy, M.D., F.R.C.S.I.

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In the course of our reading on this subject we were not confined to the study of general treatises; we especially studied those treating of the disease in childhood.

In France the first book on the disease as it appears in children is the monograph of Aldibert (of Toulouse), which appeared in June, 1894. He was a pupil of Dardenne, and chose the subject for his inaugural thesis (Toulouse, 1894).

The thesis contained three unpublished cases and a list of thirty-three cases which were published by different authors, practically all the cases since the days of Chassaignac.

These writings were later than those of Koplik and van Arsdale, which were published in 1892 in the American Journal of Medical Science.

Braquehaye published in 1895, in the Gazette Hebdomadaire de Médecine et de Chirurgie de Paris a very interesting article on osteomyelitis in infants, which he based on forty-four cases attended in the Trousseau Hospital, in the service of M. Broca, during the period from October, 1892, to April, 1895. The statistics of Braquehaye are of great interest as being those of one observer.

Further, we may cite in this connection the theses of Charézieux, d'Astros, Renaud, Laporte, Cauce, and, besides, the writings of Broca.

II.

Etiology, Frequency.—Broca commenced one of his clinical lectures on osteomyelitis by saying:—" When it first seizes, unfortunately an assertion still classic, of the great relative frequency of its occurrence in infants at an early age; and we may add, that this is a period of life of peculiar interest at all times, for the pathologist, the clinician, and the surgeon."

Braquehaye remarks in his monograph, three periods of life in which osteomyelitis is most prevalent: "First, during the course of the first year; secondly, after the sixth year; and thirdly, about the age of fifteen years."

In the statistical tables we prepared we found that of 159 cases of osteomyelitis, 21 cases occurred during the first two years. Cauce in his thesis gave an abstract from the service of Broca at the Children's Hospital from 1896 to 1908, of 190 cases of osteomyelitis in infants from one to ten years of age, showing that of these 20 were under three months old.

If the presence of osteomyelitis of sucklings is not more frequently recognised it is due to the symptoms being unnoticed at that age, as we see in our clinic. We think that the great frequency of the disease at such an early age is due to the hyperæmia of the osseous tissue, which is at its greatest in infancy, where it is centred round the points of ossification, a soil fertile for the development of such an affection; the causes of infection are many, the ports of entrance numerous.

Sex.—If osteomyelitis of childhood is of more frequency in boys, it is due to their greater liability to accidents; it is not so in the case of sucklings, when the influence of sex is as nothing. Dardenne found that of his patients more girls suffered than boys, and of 44 patients of Braquehaye, 24 were boys and 20 girls.

Soil.—Some authors consider that the disease is more frequent in delicate sucklings (d'Astros). But the infection has equally been found in well-nourished infants who have been of average weight at their birth.

Scasons.—Cold, and, above all, change of season come in here, as in other diseases, in a certain character ætiological. Some authors note the greater frequency of the disease in spring and autumn. But we also know that during these two seasons of the year the affections of the throat and of the lungs are then more frequent, and this may, in a sense, explain the frequency of osteomyelitis at such times.

Ports of Entrance.—Besides the causes common to all ages, sucklings suffer from a series of causes special to their age. We must point out that osteomyelitis supervenes on an infection during intra-uterine life, the mother being infected with a general disease, the microbes pass into the placental circulation, and so into the fœtus. The writings of Chambrelent (of Bordeaux) have established this fact. Kaltenbach cites the case of a mother attacked with erysipelas of the face during her pregnancy, who aborted, and they clearly demonstrated streptococcus in the lymphatics of the fœtus.

Senn reports the case of a healthy woman who gave birth to a child suffering from suppurative osteomyelitis. This writer thinks that the living microbes of the healthy mother passed by the placenta into the fœtal circulation and caused the osteomyelitis.

During labour, and above all after a long and laborious one, infection is liable to be produced. Allard, Chipanet, Dardenne, and Aldibert give examples.

Braquehaye describes a case of osteomyelitis supervening in an infant who was born in a condition of apparent death, and he ascribes the disease to the rough usage employed for its resuscitation.

Further, we find cases of osteomyelitis developed in infants whose mothers were at the same time suffering from puerperal fever. (Hasle, Duluck, Fleury.) A wound caused by the application of midwifery forceps has formed a port of entrance for infection.

Guénoit, Dardenne, Braquehaye, Charézieux, report cases of osteomyelitis following on an injury of the umbilical cord.

Injuries to the gums, dentition, sores on the lips, form ports of entrance for the infection. Dardenne, Aldibert, Braquehaye, give examples and quote cases.

Breast milk infected from galactophoritis has infected the suckling. Damouratte and Broca give examples.

We know how frequent are cutaneous sores, ecthyma, impetigo, eczema, excoriations, &c., above all, wounds in the vicinity of the anus; and we can realise that such injuries give ready entrance to microbes.

Gouillioud in his thesis, and Kormann report cases of osteomyelitis which had their origin in inflammation of the breast in the new-born. We know, in fact (Maygrier and Jarnon), that mastitis occurring in the new-born tends to end in suppurations. We also know that primitive infection forms the point of departure for osteomyelitis, purulent ophthalmia (Broca), and septic vaccination (Otto, Soltmann, Lindemann, Braquehaye.)

Gastro-intestinal troubles also give passage to microbes, which in debilitated patients penetrate to the points of ulceration in the intestines.

And, as has been demonstrated by Kochner and Colgy, the streptococcus is able to flourish in the intestines. It is the same in pulmonary lesions.

We thus learn how numerous are the ports of entrance which invoke the latent micro-organisms of Verneuil. Of the secondary causes, cold stands in the front line; all young beings are very sensitive of cold; unhygienic surroundings, faulty alimentation, hereditary syphilis, &c.

Syphilis, as Renaud says in his thesis, predisposes in many ways to osteomyelitis. It enfeebles the subject who is already predisposed to the disease; the lesions, mucous and cutaneous, which it causes form a series of ports of entrance to infection. Finally, it attacks the epiphyses of the bones, as the seat of least resistance. The co-existence of syphilis and of osteomyelitis in infants can be recognised as we will find later on

III.

Bacteriology.—If the staphylococcus is the microbe most frequently found in the osteomyelitis of adolescence, is it not the same in the osteomyelitis of infancy? It is so, as noticed by Broca. The microbe is easily recognised, and very common during infancy. Here, then, is the first characteristic with which we are concerned in the bacteriology of sucklings.

Braquehaye, who collected the cases in which he made a bacteriological examination of the pus, and of those which are cited by Dardenne in his thesis, gives the following statistics:—

Streptococcus - - 10 times.
Staphylococcus aureus - - 7 times.
Pneumococcus - - 4 times.
Sterile pus - - once.

In the thesis of Cauce we found the following statistics, collected from twenty cases of osteomyelitis in children under three months old, when bacteriologically examined:—

Streptococcus - - 11 times.
Staphylococcus - - 7 times.
Mixed microbic forms - twice.

The staphylococcus, and especially the Staphylococcus aureus, occupies second place. The Staphylococcus albus appears to be confined to chronic osteomyelitis.

A second characteristic of the bacteriology of osteomyelitis of infancy is the presence of the pneumococcus in the pus. Braquehaye found it four times. We also in a case (Maygrier and Haller) have found the pneumococcus in a

state of purity. The pneumococcus, as Braquehaye says, does not belong to any period of life; it may, therefore, be a cause of osteomyelitis in infancy.

Lannelongue, at the Surgical Congress in 1896, insisted on the fact that the pneumococcus was not found in children under four months.

We frequently found the admixture of Streptococcus areus, staphylococcus (Devaigne), pneumococcus, and streptococcus, &c.

We have not found the bacillus of Eberth as a cause of osseous infection; this is readily explained. Sucklings are free from typhoid fever. We must finally draw attention to the researches of Lippman and Foisy, who, in a case of osteomyelitis of the inferior extremity of the femur, in a suckling, found anaërobic microbes.

It is regrettable also that the statement of Duclaux in his thesis, that in the many examinations of cases of osteomyelitis, and in his many bacteriological examinations, he tound nothing from his study of very acute forms of pus collected on trepanation beyond evidences of intense inflammation.

The microbes migrate by the blood-vessels and the lymphatics. It appears, as noticed by Lannelongue and Achard, that each variety of microbe selects a special route—thus it is that the streptococcus is more frequently found in the lymphatic vessels, and the staphylococcus in the veins.

IV.

Pathological Anatomy.—It is unnecessary to dwell on the pathological anatomy of osteomyelitis in general: all the stages of infection from the simple vascularisation of the medulla of the bone to the purulent form with interosseous and subperiosteal abscesses are met with. We will confine our observations to the form of osteomyelitis found in childhood.

Site.—The localisation of the disease is not the same in all the bones, as we shall find further on. As Braquehaye has pointed out in his statistics, the femur is attacked more frequently than the tibia, which in the adult is attacked somewhat more, or at least as frequently, as the femur, but in infancy occupies the second place.

This is explained by the fact that in infancy the femur grows very quickly, and has a greater vitality than that of any of the other bones. We know also that in the adult the osteomyelitis attacks the epiphyses of the femur close to the articulation at the knee, and the humerus at the epiphyses furthest from the elbow. In infants, however, we find a small proportion showing the same predisposition in the femur, and even less marked in the upper extremity. In the ulna we found most frequently that the disease was localised at the point nearest to the elbow, the opposite to the condition found in the adult. The disease is common to the long, short, and flat bones; but is most common in the long ones. The flat bones, however, are proportionately more frequently attacked at this age than in adult life.

Many authors are of opinion that the primary infection becomes localised at the epiphyseal point. The seat of the epiphysis shall, therefore, be the starting point (Aldibert, Dardenne, König). Others, however (Lannelongue), place the primitive nidus on the face of the epiphyseal cartilage

(the bulb of the bone).

One of the important characteristics of osteomyelitis in childhood from the point of view of localisation is the frequency of multiple seats of infection. Therefore, Aldibert and Dardenne insist that we should not be surprised at the fact "if we reflect," as says Aldibert, "on the activity of the nutritive changes which are taking place in this part of the locomotor apparatus, at an age when growth is most rapid." According to this author the multiple lesions occur in 42.4 per cent. of the cases. All admit the possibility of multiple lesions. Braquehave, however, thinks that Aldibert's estimate is too high, as having brought that author's statistics, and those of others into one table, he found that of 44 cases of osteomyelitis multiple centres of infection were found in 9 cases only—a percentage of 22.5 per cent. These statistics are all the more valuable because they represent the percentage of the combined statistics of the same author. According to Haaga the proportion is still less, it should be 20.3 per cent. (82 cases in 403 patients). In these statistics recently published (Devaigne, Maygrier, and Haller) we found many foci of osteomyelitis which were developed secondarily.

Articular Lesions.—Articular lesions are very common in the osteomyelitis of the young. Aldibert and Dardenne give the proportion of purulent arthritis at 50 per cent. Braquehaye fixes it at 30.2 per cent. Broca found the localisation most frequently at the point of the hip, then came the elbow, shoulder, knee. The articulation is infected in different ways, as, says Mauclaire:—Sometimes by a sub-periosteal abscess which perforates the synovial tissues, and so works its way into the joint; at other times, when the epiphyseal cartilage is within the joint, its destruction causes a fatal irruption of pus into the joint, or by an hydrarthrosis in the vicinity of the joint becoming infected through the lymphatics or the blood-vessels. The streptococci more readily produce purulent arthritis than the staphylococcus (Lannelongue and Achard).

In the suckling, arthritis of the hip joint occurs so frequently that we must not look on it as a complication, but as a veritable symptom (Duclaux).

Finally, we may mention that Koplik and van Arsdale have described a special form of osteomyelitis characterised above all by suppurative arthritis, in which the osseous lesions are slight and due to streptococcus. Braquehave gives an example.

We can readily recognise that acute articular lesions are associated with lesions of the neighbouring soft parts. The ligaments and the capsule being destroyed, the pus pours in in every direction. Finally, pathological luxations may occur in pyo-arthritis.

In infancy, as says Aldibert, children are predisposed to epiphyseal separation; this author recounts 50 per cent. of such cases. Braquehaye cites two observations concerning this complication to the effect that it is due to the delay in intervention.

We would also draw attention to the occurrence of spontaneous fractures of the bones—a complication very unusual in infancy.

Lastly, chronic osteomyelitis has been known to occur. Braquehaye cites many examples. Dupont makes the observation that whilst in the adult the form of the disease is to chronicity, it is very seldom so in the infant. Sequestra are seldom met with. The work of repair keeps pace with that of destruction, this is the case in every infant, the osteogenetic activity being then at his highest state of development, a fact which favourably influences the prognosis of the affection in infancy. We have had occasion to observe by the radioscope

the repair absolutely perfect six weeks after operation, showing no difference between the healthy and the diseased side, except that on the diseased side the bone was more clear than the bone of the healthy side.

Symptomatology.—We take as a type the description of the acute form of the disease.

Initial Stage.—The beginning of the disease is marked by grave general phenomena. The temperature rises to 103° or 104°, preceded sometimes by rigors and convulsions. The appetite is lost, the infant refuses the breast, it cries without ceasing, and cannot sleep. The gastro-intestinal symptoms are equally indicative: vomiting, purging, constipation. The skin is sometimes pale and sometimes of a leaden hue. The weight varies, or, after the loss of a few pounds, remains stationary for some days. It is for these symptoms, which conceal the nature of the disease, that medical advice is sought. It is when these symptoms cease, and the second stage of the disease is reached, that we may hope to discover the cause; it becomes possible when we become suspicious of the presence of osteomyelitis and search for local symptoms.

The infant should be undressed and placed on a table, so that he may be turned about in every direction.

We should be able at the beginning of our examination of the child to detect the seat of injury by the position of the injured limb. The question arises—Is the seat of the disease at the extremity of the inferior extremity? We see that the child places the limb in a position of semi-flexion, adduction, and external rotation; if the seat of the disease is in the upper limb, he places it in a condition of semi-flexion and semi-pronation. The awkward position in which the patient carries the limb is the first sign we encounter of the disease.

Palpation enables us to localise the site of pain, and on this account it is good to begin the examination on the healthy side, to accustom the child to its use, so that the cry on touching the inflamed part may locate the exact seat of the lesion (Lannelongue). Afterwards we may sometimes be able to gently palpate the lesion.

Lastly, active movements of the affected side are also very painful.

Condition.—The general symptoms are very marked; the temperature ranges from 104° to 105.8°; the pulse is small,

frequent, 130 to 140; there exists a veritable typhoid condition.

The local symptoms are very plain: the region of the disease is swollen, and is ædematous, from the collateral venous circulation—evidence of deep-seated lesions. The skin has the red tinge of lymphangeiitis. He may also be able to detect fluctuation, which may be verified by puncture, if the bone is superficial, but difficult to be carried out if the affected bone is deeply seated, as in osteomyelitis of the superior extremity of the femur. It is necessary in such cases to proceed, as recommended by Roux and Chassaignac, by taking the diseased limb between your hands, and so pressing the limb as to detect the sensation of fluid. Sometimes we may recognise the swelling on the bone (the "periosteal cushion" of Lannelongue).

VI.

Evolution.—The progress of the disease in the acute form is variable. At times death follows three or four days after the appearance of the first symptoms, which in such cases are hyperacute. In other cases the fatal termination is not so rapid, and is as a rule due to visceral complications, notably broncho-pneumonia. Again, some cases recover, especially if surgical interference has been availed of sufficiently early. In infancy, chronic osteomyelitis is exceptionable, as also is necrosis. We can count on the preservation of the bone without shortening; indeed, lengthening in such cases is the more common, and without fistula. Even if the osteomyelitis runs to suppuration, the articulation remains absolutely intact—a fact of great importance.

VII.

Clinical Types.—As to the clinical history of the disease, we will consider the acute form as typical of the affection as it occurs in childhood—it is that which is most frequently met with.

We also describe the hyperacute and fulminant forms. We find in the thesis of Gérard an observation of this kind, where the general symptoms were very intense, the patient being suddenly overwhelmed by general convulsions prior to the appearance of any local symptom, and the autopsy showed nothing except a nidus of osteomyelitis.

There also exists a subacute type of the disease in childhood. We have seen four such cases during one year at the Maternity. It is characterised by mild symptoms, a moderate temperature, not exceeding 100°. Locally we can find a swelling; but it is smaller, not red, and not so warm, neither so painful on pressure as in the acute type (Maygrier and Haller).

This sub-chronic form is rare in childhood.

Lastly, we would refer to the fact that Dupont reports having seen a case of the chronic form in the clinique of Children's Diseases of M. Broca.

Microbes of the Disease.—The streptococcus causes a sudden onset, a quick reaction, falling on the formation of pus. The pus is more fluid and more serous than that resulting from staphylococcus infection. The skin of the region is erysipelatous-looking, and the course of the lymphatic vessels can easily be traced, the skin is not clammy, there is neither periosteal cushion nor network of enlarged veins; but the glands are enlarged.

The staphylococcus does not cause redness of the skin, but it causes a network of subcutaneous veins at the seat of infection, and of their branches.

The pneumococcus causes an osteomyelitis which is ushered in by very severe symptoms, but the evolution is rapid. The articular complications are the more common, but their character is more severe than the usual type of arthritic complications. The greenish pus, of a thick consistency, forms in a few days.

The Anatomical Condition.—The attack commences with the general symptoms and without the presence of pus. In some cases a simple sub-periosteal abscess forms. In others there is a destruction of the epiphyseal cartilage, suppurative arthritis, and separation of the epiphysis. We have already alluded to the presence of multiple centres of infection, and it is unnecessary further to refer to them here.

Concerning the Localisation.—One of the most interesting sites of the disease is that at the superior extremity of the femur, osteomyelitis of the hip, ever nigh to a coxo-femoral pyo-arthritis. Duclaux has dealt very fully with this site of infection in his thesis.

Localisation of infection close to the spine is unusual, and when it is present the general symptoms mark the fact.

Locally, we find rigidity and a marked hyper-sensibility of the whole spinal region associated with enormous local ædema and suppuration after a few days.

At the base of the skull we also find centres of infection, and we recognise the predominance of the symptoms of meningitis. A. Roquel has reported some very instructive observations on this subject.

Lastly, we have found foci of infection in the inferior maxillary bone, the ilium, the sternum, the clavicles, the metacarpals, and the metatarsals.

VIII.

Complications.—The complications of osteomyelitis in infants naturally fall into two groups—the one immediate, the other late.

Among the immediate complications we include both the local and general.

Separation of the Epiphyses.—We have referred to the frequency of this lesion in the section on pathological anatomy. We shall not repeat it. This complication is caused, from the clinical point of view, by powerlessness of the limb. Further, we find that on grasping the limb by both extremities we get movement at a site where no articulation exists. This abnormal mobility, often considerable, is a valuable diagnostic sign.

Purulent Arthritis.—In this complication, as Lacasse has said in his criticism of Koplik's work, osteomyelitis more frequently attacks the hip-joint in infancy than at any other age. Broca is of the same opinion, and—as we have said in relation to the pathological anatomy—relative to osteomyelitis of the hip, Duclaux found this complication so distinctly present that he considers it to be a concomitant.

Spontaneous luxations and spontaneous fractures are very unusual at this age. But the general complications are very much the more important.

Visceral complications are very frequent owing to the bad soil on which the disease flourishes, the age of the patient, his predisposition and slight power of resistance. We find notes in the thesis of Charézieux of cases in which autopsies and histological examinations of the viscera were made. The author describes lesions of the lung, the heart, and the liver. Of these complications the most frequent is bronchi-pneu-

monia. Even if a cure is effected locally, this complication continues throughout convalescence, following the foci of infection in the lungs and the septic emboli from the diseased bone.

Aldibert, Dardenne, Charézieux describe the endocardial and pericardial complications. Abscesses of the liver are also found (Charézieux). They further describe nephritic and gastric complications.

Lastly, we, in certain forms, found lesions in all the organs. These are the types of general complications.

We are, further, of opinion that the multiple cutaneous abscesses are due to metastatic foci.

Complications of slow development are seldom met with in infancy. As we have already said, the local lesions at this age are acute, so that when a cure is effected it is permanent; therefore, in these cases, we get neither ankylosis nor vicious attitude, as met with in patients of a more advanced age. The bone preserves its normal length (indeed, lengthening is more common than shortening), its normal width; in a word, it preserves its integrity. Sequestra do not result from an acute attack.

D'Astros cites rickets and spasms of the glottis as slow complications of osteomyelitis. According to this author the complications are due to the same infection. Sometimes its effect is to excite an organic reaction threatening deep-seated troubles during the development of the skeleton; at other times, on the contrary, they produce a veritable nervous reaction, under the influence of which is developed spasm of the glottis with all its terrible consequences.

IX.

Diagnosis.—The diagnosis of osteomyelitis in infancy often offers great difficulty. The difficulties are that in the beginning of the attack the general symptoms are very severe and the local ones, which thus pass unnoticed, obscure—a fact of great importance, for on the early recognition of the local symptoms oftentimes depends the cure. Recollect, therefore, that, in presence of the very severe general symptoms in the infant, it is absolutely necessary to make a complete examination of the patient, examine the skeleton, and scrutinise its bones and articulations. And in cases of doubt we must use the radioscope. Finally, examine the blood for evidence of the presence of a purulent collection, and make a

lumbar puncture in all cases that cause a suspicion of meningitis.

We have found cases in which, although the general symptoms were of an alarming character, no local symptoms were present. Eruptive fevers, articular rheumatism, and typhoid fever are unusual during infancy, and the diagnosis does not always lie between acute and tubercular meningitis. But in the diseases the general symptoms in the onset of the attack are not so violent as in osteomyelitis, the infant is often out of sorts, and has vomited without any obvious cause, and if locally we find nothing, puncture of the lumbar cord becomes necessary to allow of a diagnosis.

By the side of the general symptoms we have the local ones; we eliminate readily the lymphatic and diffuse phlegmon. They remind us, however, that these manifestations oftentimes hide a deep-seated lesion. Also eliminate traumatic injuries (fractures). It may, however, be an acute, non-suppurating rheumatismal arthritis, such as Broca, Delanglade, and Barbarin have reported. If, instead of the very severe general symptoms we have an onset less severe, and we find ourselves in the presence of subacute osteomyelitis, the diagnosis must differentiate it from tuberculosis, and particularly from syphilitic osteitis.

One of the most difficult of these diagnoses is to distinguish the subacute form of the disease from the pseudo-paralysis of Parrot, with which it is often confounded (Maygrier and Haller).

The diagnosis is certainly easy if at the time of the swelling of the bone of the syphilitic, other evidences of hereditary syphilis are present (cutaneous, &c.) Nevertheless, we must sometimes postpone our diagnosis until treatment clears up the difficulty.

Relevant to this condition we draw attention to the possibility of the co-existence of the two diseases. Thibierge has published a good example of this, and in the paper which he presented to the Society of Anatomy he quotes the authors who had already recorded such cases (Valeix, F. von Baerensprung, Guéniot, &c.). We have already stated that hereditary syphilis should be considered a predisposing cause of osteomyelitis, and how it is able to seize on the syphilitic soil (Renaud).

When we are in the presence of chronic ostcomyelitis the

difficulty is to differentiate the disease from hereditary syphilis and from osteosarcoma; happily, chronic osteomyelitis is very uncommon, so much so that neither Broca nor Dupont ever met with a case.

We lastly draw attention to the case in which the disease is localised in a cranial bone. In such a case the diagnosis from meningitis is difficult. However, on carefully examining the cranial bones by methodical palpation, lightly and repeatedly done, it is possible to make a diagnosis (Bouquel). Lastly, we should not neglect to make a diagnosis of the complications.

Χ.

Prognosis.—Osteomyelitis in infancy is more serious from the point of view of life than at any other age. This gravity is due in part to the youth of the patient and in part to the very serious nature of the symptoms which mark the onset of the disease. Osteomyelitis of the hip is more dangerous than that of the tibia. The same rule applies to the prognosis which is more unfavourable in the more serious forms with multiple foci of infection, and associated with suppurative arthritis, in the streptococcus form, and above all when associated with microbes.

Finally, among complications, broncho-pneumonia more than any other darkens the prognosis. But if the case is cured, as we have said above, the cure acts on the local conditions in a more favourable way than might have been hoped for. The prognosis is sometimes affected by the early intervention of surgical treatment.

XI.

Treatment.—The treatment is local and general.

The local treatment is surgical. We should not lose time, but remember that surgical interference ought to be early, and that on this promptness depends oftentimes the life of our little patient.

Incisions, opening of sub-periosteal abscesses, trephining of bone, scraping out of pus-infiltrated marrow. We should remember as a guiding principle to be gentle to the wrecked life. We should never excise a diaphysis entire, as some have recommended, for we have seen infants recover such parts after they had been given over as dead. The general treatment should be on all fours with the local.

SANITARY AND METEOROLOGICAL NOTES.

VITAL STATISTICS.

For four weeks ending Saturday, February 21, 1914.

IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended February 21, 1914, in the Dublin Registration Area and the twenty-six principal provincial Urban Districts of Ireland was 19.1 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,205,280. The deaths registered in each of the four weeks of the period ending on Saturday, February 21, and during the whole of that period in certain of the districts, alphabetically arranged, correspond to the following annual rates per 1,000:—

		Average Rate						
COUNTY BOROUGHS, &c.	Jan. 31	Feb.	Feb. 14	Feb. 21	for 4 weeks			
27 Town Districts	24.1	21.9	18.9	19.1	21.0			
Dublin Reg. Area	24.4	25.3	20.4	20.7	22.7			
Dublin City	26.0	26.9	18.6	22.2	23.4			
Belfast	25.7	21.4	18.6	18.8	21.1			
Cork	19.7	21.8	19.0	19.0	19.9			
Londonderry	22.8	16.5	5.1	10.1	13.6			
Limerick	24.4	24.4	23.0	23.0	23.7			
Waterford	32,3	11.4	28.5	17.1	22.3			

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 27 districts during the week

ended Saturday, February 21, 1914, were equal to an annual rate of 1.2 per 1,000. Among the 144 deaths from all causes in Belfast were 1 from searlet fever, 2 from diphtheria, 1 from whooping-cough, and 1 from diarrhæa and enteritis of a child under 2 years. Included in the 28 deaths from all causes in Cork was 1 from diphtheria, 1 from searlet fever, and 1 from whooping-cough. One of the 7 deaths from all causes in Kilkenny was from diphtheria. Among the 9 deaths from all causes in Tralee were 2 from diarrhæa and enteritis of children under 2 years. Of the 7 deaths in Newtownards, 1 was from whooping-cough, and of the 17 deaths recorded for Limerick 1 was from searlet fever and 1 from diarrhæa.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin, as extended by the Dublin Corporation Act. 1900, together with the Urban Districts of Rathmines. Pembroke, Blackrock, and Kingstown. The population of this area is 406,000; that of the City being 310.467, Rathmines 39,155, Pembroke 30,240, Blackrock 9,197, and Kingstown 16,941.

In the Dublin Registration Area the births registered during the week ended February 21, amounted to 217—116 boys and 101 girls, and the deaths to 175—89 males and 86 females.

DEATHS.

The deaths registered, omitting the deaths (numbering 14) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 20.7 per 1,000 of the population. During the eight weeks ending with Saturday, February 21, the death-rate averaged 25.0, and was 0.2 above the mean rate for the corresponding portions of the ten years 1904–1913.

The total deaths registered, numbering 175, represent an annual rate of 22.5 per 1,000. The annual rate for the past eight weeks was 26.7 per 1,000, and the average annual rate for the corresponding period of the past ten years was 26.0 per 1,000 of the mean population for all deaths registered.

The deaths included 3 from whooping-cough, 1 from influenza, 3 from measles, and 4 from diarrhoea and enteritis in children under 2 years. In each of the 3 preceding weeks

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA, AND IN BELFAST, CORK, LONDONDERRY, LIMERICK, AND WATERFORD.

The following Table shows the Number of Cases of Infectious Diseases notified, under the "Infectious Diseases (Notification) Act, 1889," and the "Tuberculosis Prevention (Ireland) Act, 1908," in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the Cities of Belfast, Cork. Londonderry, Limerick, and Waterford, during the week ended February 21, 1914, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Wee		Measles	Rubella, or Epi- demic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Pyrexia (origin uncertain) a	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Whooping-cough	Cerebro-spinal	A cute Polio- myelitis	Pulmonary Tuberculosis	Total
City of Dublin	Jan. Feb. Feb.	31 7 14 21	9 0	0 0 *	13 20 12 12	- 1	-	11 14 7 13		-	2 3 6 1	10 4 7 4	-	* *	1 - 1	-	33 38 41 28	70 79 75 58
Rathmines and Rathgar Urban District	Jan. Feb. Feb. Feb	31 7 14 21	0	*	5 4 1	-	-	3 2 2 1			1 -	1		* * * * * * * * * * * * * * * * * * * *	* * *	0	* *	78
l'embroke Urban District	Jan. Feb. Feb.	31 7 14 21	15 68 33 43		4	-	-	1 - -	-	- - -	- - 1	_ _ _	1 1 1	4	* *	*	1 1 2	17 72 39 46
Blackrock Urban District	Jan. Feb. Feb. Feb.	31 7 14 21	0 0	0 0	2 7 7 1		- - - -			-	-		-	0 0	-	* * *		-
Kingstown Urban District	Jan. Feb. Feb. Feb.	31 7 14 21	* * *	* * * * * *	- 3 1	1 1 1	-	-			1	- - 1	- 1 1	*	+ +		1 1 1 2	:
City of Belfast	Jan. Feb. Feb. Feb.	31 7 14 21	0 0	* 0 0	52 37 59 39	1 1	-	11 5 14 8	1 - -	1	1 3 4 1	1 6 5 6	- - 1	0			4 3 11 11	70 54 94 66
City of Cork	Jan. Feb. Feb.	31 7 14 21	- 1 1	* * *	- 1 2	-	-	- 1 1	- 1 -	1 - -	- 1 -	1	-	* *	* * *	* * *	* * *	1 2 4
City of London-derry	Jan. Feb. Feb.	3! 7 14 21	*	41 24 41	3 2 -	-	-	1 1 1		-	-	1	-	* * *	* * *	* *	* * * *	4 4 4
Dity of Limerick	Jan Feb. Feb.	31 7 14 21	* * *	* * *	1 1 1	-		-	-	-	- 1		-	* *	-	* *	*	1 1 1 2
City of Waterford	Jan. Feb. Feb. Feb.	31 7 14 21	* * *	* *	-	-		2			-	1 -		* * *	* * *	* * *	* * *	-

deaths from whooping-cough had been 2, 2, and 2; from influenza, 2, 0, and 1; from measles 3, 5, and 5; and from diarrhœa and enteritis of children under 2 years 5, 3, and 5.

Of 35 deaths from tuberculosis (all forms) 25 were attributed to pulmonary tuberculosis, 3 to abdominal tuberculosis, 4 to tubercular meningitis, and 3 to other forms of the disease This number is exclusive of 4 deaths of persons admitted to hospital from localities outside the Area. In each of the 3 preceding weeks, deaths from all forms of tuberculosis had been 37, 31, and 30.

There were 5 deaths from cancer, or malignant disease. There were 3 deaths of infants from congenital debility, 5 deaths from premature birth, 8 deaths from convulsions, and 1 death from a congenital malformation.

The 14 deaths from pneumonia included 10 from bronchopneumonia and 4 from pneumonia (type not distinguished).

Twelve deaths were caused by organic diseases of the heart. There were 16 deaths from bronchitis.

Accident or negligence caused 2 deaths, one being that of a child aged 4 years, by scalds.

In 8 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 3 children under 5 years of age, and the deaths of 2 persons aged 65 years and upwards.

Fifty-two of the persons whose deaths were registered during the week were under 5 years of age (37 being infants under one year old, of whom 10 were under one month old), and 43 were aged 65 years and upwards, including 30 persons aged 70 and upwards. Among the latter were 16 aged 75 years and upwards, of whom 4 (2 males and 2 females) were stated to have been aged 93, 95, 90 and 95 years, respectively.

Cases of Infectious Diseases under Treatment in Dublin Hospitals.

During the week ended February 21, 1914, 2 cases of enteric fever were admitted to hospital, 3 were discharged, and 26 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the three preceding weeks having been 30, 25, and 27.

One case of typhus remained under treatment at the close of the week.

Three cases of measles were admitted to hospital, 2 cases were discharged, and 17 cases remained under treatment at the close of the week. At the end of the 3 preceding weeks such cases had been 12, 13 and 16, respectively.

Fifteen cases of scarlet fever were admitted to hospital, 16 were discharged, there was I death, and 132 cases remained under treatment at the close of the week. This number is exclusive of 23 patients under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital. At the close of the 3 preceding weeks the cases in hospital had been 121, 132 and 134, respectively.

Twenty-four cases of diphtheria were admitted to hospital and 11 were discharged. The cases in hospital, which at the close of the 3 preceding weeks had numbered 63, 67, and 52 respectively, were 65 at the close of the week under review.

In addition to the above-named diseases, 10 cases of pneumonia were admitted to hospital, 10 were discharged, there were 5 deaths, and 24 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, February 21, in 97 large English towns (including London, in which the rate was 14.2) was equal to an average annual death-rate of 15.0 per 1,000 persons living. The average rate for 16 principal towns of Scotland was 16.5 per 1,000, the rate for Glasgow being 15.6, and that for Edinburgh 15.7.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended February 21. From this report it appears that of a total of 74 cases notified, 46 were of scarlet fever, 15 of phthisis, 6 of diphtheria, 6 of erysipelas, and 1 of puerperal fever. Among the 629 cases of infectious diseases in hospital at the close of the week were 293 cases of scarlet fever, 192 of phthisis, 64 of diphtheria, 52 of measles, 3 of enteric fever, 10 of erysipelas, 1 of whooping-cough, and 1 of puerperal fever,

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of February, 1914.

Mean Height of Barometer. -29.501 inches. Maximal Height of Barometer (27th, at 9 p.m.), 30.041 Minimal Height of Barometer (22nd, at 9 a.m.), 28.047 22 Mean Dry-bulb Temperature, 44.9°. Mean Wet-bulb Temperature. 42.5°. Mean Dew-point Temperature, 39.6°. Mean Elastic Force (Tension) of Aqueous Vapour, .249 inch. Mean Humidity. 82.6 per cent. Highest Temperature in Shade (on 3rd), 58.0°. Lowest Temperature in Shade (on 24th). 32.6° . Lowest Temperature on Grass (Radiation) (24th) 30.1°. Mean Amount of Cloud. -- - 56.5 per cent. Rainfall (on 19 days), - 2.479 inches. Greatest Daily Rainfall (on 21st), -.462 inch. General Directions of Wind, - -- S.W., S., W.

Remarks.

An open, windy, rainy month. The centres of a series of large cyclonic disturbances moved in a general north-easterly direction during the first week over the Icelandic region and the adjoining parts of the Atlantic, during the second and third weeks across the Atlantic between Iceland and the British Isles; and finally, on the 22nd and 23rd, a cyclone in which the barometer fell to 28.047 inches in Dublin at 9 a.m. of the 22nd, passed in a northerly direction up St. George's Channel and across the Irish Sea and North Channel to the Hebrides, and finally to the Faeroe. On very few days-and these mostly towards the close of the month—did the wind fail to attain gale force on the British and Irish coasts, and at 8 a.m. of the 22nd Lyons reported a wind velocity of 40 metres per second, or 89.5 miles per hour, from the southward. This incident coincide I closely with the presence near Dublin of a evelonic centre in which the barometer, as already stated,

fell to 28.047 inches. This was the lowest reading recorded in this city since December 8th, 1886, when the memorable observation of 27.758 inches was made at 2 30 p.m. On that day the minimum recorded at the Observatory of the Ordnance Survey Office, Phoenix Park, was 27,766 inches, being the lowest reading noted at that station since the year 1829. On November 28th, 1838, the barometer fell to 27,769 inches at the Ordnance Survey Office at 8 p.m. From the above statements, it will be seen that the low reading of 28.047 inches does not come within a quarter of an inch of the low atmospheric pressures in 1829, 1838, and 1886. The nearest approach to it was the extremely low reading of 28.077 inches in Dublin on March 15th, 1905, nearly nine years ago. In the cyclonic system of the 22nd the wind shifted to E. and blew freshly. There had been a S.E. gale in the night, and rain fell to the amount of .462 inch in Dublin and of .670 inch as Fassaroe, near Bray, Co. Wicklow. In the course of the day the wind backed through N.E. to N., and finally to W. The closing days of the month, though still changeable, were quieter and a slight frost occurred on the 24th.

In Dublin the mean temperature (46.0°) was 3.6° above the average (42.4°) . The mean dry-bulb readings at 9 a.m. and 9 p.m. were 44.9° . In the forty-nine years ending with 1914, February was coldest in 1895 (M. T. = 34.2°), and warmest in 1903 (M. T. = 47.5°). In 1913 the mean temperature was 43.4° .

The mean height of the barometer was only 29.501 inches, or 0.354 inch below the average value for February—namely, 29.855 inches. The mercury rose to 30.041 inches at 9 p.m. of the 27th and fell to 28.047 inches at 9 a.m. of the 22nd. The observed range of atmospheric pressure was, therefore, 1.994 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 44.9°, or 2.6° above the value for January, 1914. Using the formula Mean Temp. = Min. (Max. — Min.) × .50, the M. T. is 46.0°, compared with a thirty-five years (1871-1905) average of 42.4°. On the 3rd the thermometer in the screen rose to 58.0°—wind, S.W.; on the 24th it fell to 32.6°—wind, calm. The minimum on the grass was 30.1° on the 24th.

The rainfall was 2.479 inches, distributed over 19 days. The

average rainfall for February in the thirty-five years, 1871–1905, inclusive, was 2.010 inches, and the average number of rain-days was 15. The rainfall, therefore, and also the rainfally were in excess of the average. In 1883 the rainfall in February was large—3.752 inches on 17 days; in 1879 also 3.706 inches fell on 23 days. On the other hand, in 1891, only .042 inch was measured on but 2 days. In 1913, only .602 inches fell on 12 days.

Fog occurred on the 24th. The amount of cloud—56.5 per cent.—was under the average—66 per cent. High winds were noted on 17 days, and reached the force of a gale on the 8th, 11th and 22nd. Sleet fell on the 22nd.

The temperature reached or exceeded 50° in the screen on 16 days, and never fell to 32° in the screen. The minima on the grass were 32° or less on only 2 nights, compared with every night in 1895. The thermometer failed to rise above 44.0° in the screen in the daytime on the 22nd. The highest minimum was 53.0° on the 2nd. The mean maximum was 51.2° , the mean minimum was 40.7° .

In Dublin the rainfall up to February 28th amounted to 3.481 inches on 31 days, compared with 6.178 inches on 33 days in 1913, and a thirty-five years (1871–1905) average of 4.220 inches on 33 days.

At the Normal Climatological Station in Trinity College, Dublin, Mr. S. A. Clark reports that the mean height of the barometer was 29.501 inches. The range of atmospheric pressure was between 30.02 inches at 9 p.m. of the 16th and 28.03 inches at 9 a.m. of the 22nd. The mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 46.0°. The arithmetical mean of the daily maximal and minimal temperatures was 45.8°. The screened thermometers rose to 59.0° on the 3rd, and fell to 29.0° on the 24th. On the 24th the grass minimum was 21.0°. Rain fell on 15 days to the amount of 2.336 inches, the greatest fall in 24 hours being 496 inch on the 21st. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 67.0 hours, of which 8.2 hours occurred on the 27th. The mean daily duration of bright sunshine was 2.4 hours. The mean earth temperatures were—at 1ft., 44.1°; at 4 ft., 45.4°.

The rainfall at Ardgillan, Balbriggan, Co. Dublin, measured by Captain Edward Taylor, D.L., was 2.21 inches on 18 days. This amount was .33 inch more than the average, and the raindays were 3 in excess. The largest fall in 24 hours was .34 inch on the 21st. From January 1 to February 28, inclusive, 3.09 inches of rain fell on 32 days—the difference in defect of the average fall being 1.32 inches, while the rain-days were 1 below the average. The thermometers in the shade rose to 54.2° on the 14th, and fell to 30.2° on the 17th.

Mr. T. Bateman reports that the rainfall at The Green, Malahide, Co. Dublin, was 2.05 inches on 17 days. The greatest fall in 24 hours was .365 inch on the 21st.

Mr. J. Pilkington recorded a rainfall of 2.74 inches on 19 days at Stirling, Clonee. Co. Meath, situated 231 feet above sea-level. The heaviest fall in 24 hours was .78 inch on the 21st. Several distant peals of thunder were heard at this station about 130 p.m. of the 12th. The rainfall since January 1, 1914, at Stirling amounts to 4.28 inches on 33 days.

At the Ordnance Survey Office, Phœnix Park, the rainfall was 2.205 inches on 18 days, the maximal measurement in 24 hours being .500 inch on the 21st. The total amount of sunshine was 81.6 hours, the greatest daily duration being 8.8 hours on the 27th.

The rainfall at Leeson Park, Dublin, is given by Dr. C. Joynt, F.R.C.P.I., as 2.330 inches on 18 days, .460 inch having been measured on the 21st. Since January 1, 3.295 inches of rain have fallen on 30 days.

At the Cheeverstown Convalescent Home for Little Children of the Poor, Clondalkin, Co. Dublin, Miss C. Violet Kirkpatrick recorded a rainfall of 3.74 inches on 21 days, the largest fall in 24 hours being .85 inch on the 21st.

Mr. Harold Fayle, 19 Highfield Road, Rathgar, Co. Dublin, measured 2.57 inches of rain on 19 days at that place. There were traces of rain on 2 other days. The greatest fall in 24 hours was .59 inch on the 21st.

Dr. Arthur S. Goff reports that at Belfort House, Dundrum, Co. Dublin, rain fell on 21 days to the amount of 3.33 inches, the greatest daily fall being .60 inch on the 21st. In the 10 years 1901–1910, the average rainfall in February at Lynton, Dundrum, was 2.232 inches on 15 days. The temperature in

the shade ranged from 58° on the 3rd to 33° on the 24th. The mean temperature in the screen was 45.7°.

Mr. George B. Edmondson recorded a rainfall of 3.36 inches on 20 days at Manor Mill Lodge, Dundrum, Co. Dublin, the largest measurement in 24 hours being .56 inch on the 21st. The mean temperature of the month was 44.8°, the shaded thermometer rising to 58° on the 3rd, and falling to 33° on the 26th.

At the Sanatorium of the Dublin Joint Hospital Board, Crooksling, Co. Dublin, Dr. A. J. Blake, the Medical Superintendent, measured a rainfall of 3.41 inches on 19 days. The largest measurement in 24 hours was exactly I inch on the 21st.

Mr. Wm. J. MacCabe, the Observer for the Right Hon. Laurence Waldron, D.L., recorded a rainfall of 2.47 inches on 15 days at Marino, Killiney, Co. Dublin. The maximum in 24 hours was .46 inch on the 7th and again on the 21st. The average rainfall for February at Killiney in the 24 years 1885–1908, inclusive, was 1.752 inches on 14.2 days.

Dr. John H. Armstrong reports that at Coolagad, Greystones, Co. Wicklow, the rainfall was 4.96 inches on 23 days. The heaviest fall in 24 hours was .65 inch on the 10th. On the 7th .63 inch fell, on the 21st .54 inch, and on the 20th .51 inch. Hail was observed on the 15th.

At Auburn, Greystones, Co. Wicklow, Mrs. Sydney O'Sullivan measured 3.47 inches of rain on 18 days, the maximal falls in 24 hours being .50 inch on the 10th and again on the 21st.

At the Royal National Hospital for Consumption for Ireland, Newcastle, Co. Wicklow, Dr. Charles D. Hanan, M.D., measured 3.45 inches of rain on 17 days, the largest daily measurement being .48 inch on the 10th. The mean temperature at the Hospital was 44.0°, the extremes being—highest, 53° on the 14th and 28th; lowest, 32° on the 24th. The mean maximum was 49.0°, the mean minimum, 38.9°.

The Rev. Arthur Wilson, M.A., returns the rainfall at the Rectory. Dunmanway. Co. Cork, at 11.03 inches on 28 days. This quantity was 5.75 inches above the average for February—namely, 5.28 inches. The greatest falls in 24 hours were 1.61 inches on the 21st, 1.40 inches on the 10th, and 1.04 inches on the 17th. From the 10th to the 21st, inclusive, 7.89 inches

fell, whereas in 1913 there was a period of 12 days without rain from February 11th to 22nd, inclusive. As regards temperature, February, 1914, was mild on the whole, very mild on the 26th and 27th. There were frequent wind-storms, chiefly from S. and S.W. The night of the 21st was very stormy from S.W. Snow followed. It had fallen also on the night of the 17th. The rainfall in 1914 to February 28th inclusive amounted to 15.89 inches, or 5.33 inches over the average, which is 10.56 inches. The rain-days in 1914 to February 28th numbered 49.

v. e. m., 1914.

The fourteenth "Voyage d'Études Médicales" to the mineral watering-places, seaside and climatic stations of France, will take place from August 30 to September 12, 1914, under the efficient presidency of Professor Landouzy. The "trip" will embrace a visit to the following health-resorts:—Vittel, Contrexéville, Martigny, Bourbonne, Plombières, Bains-les-Bains, Luxeuil, Bussang, Gérardmer, La Schlucht, Le Honech, Nancy, Mondorf, Saint-Amand, Berek, Forges-les-Eaux, Bagnoles-de-l'Orne, Zuydcoote (Sanatorium). A detailed programme will be published in April. All communications for information, &c., should be addressed to Dr. Carron de la Carrière, 2 rue Lincoln, or to Dr. Jouaust, 4 rue Frédéric-Bastial, Paris.

AN EIGHTEEN POUND BABY.

DR. F. E. GATCHELL (Pacific Medical Journal, January, 1914) reports the delivery of a woman on the 15th of October, 1913, by Cæsarean section, of a baby which weighed eighteen pounds at birth. It was a male child, measuring twenty-three inches in length, fifteen inches circumference of head, seventeen inches round the chest, the legs were nine inches and a half long, and the length of the arm was seven inches and a half. The convalescence was uneventful, and mother and son returned home on the following 17th of November. [We believe that in the early days of the Rotunda Hospital an infant eighteen pounds weight was delivered per vias naturales: both mother and child, however, succumbed during the delivery.—Ed.]

PERISCOPE

CIVIC EXHIBITION, IRELAND, 1914.

THE condition of the housing of the working classes and the problem of the poor in Dublin have been brought into lurid prominence during the last few months, and strikingly revealed by the Report of the Local Government Board Housing Inquiry Committee. From a hundred quarters the cry has been repeated: "Something must be done—things cannot and must not be left as they are." What to do and how to do it are the questions confronting us. Taking advantage of the awakening of the public conscience and as a means of bringing all sections of the public into co-operation, the Housing and Town Planning Association called a Conference of representatives of various organisations interested in the subject. It was decided at this Conference to hold a Civic Exhibition in Dublin during the Summer and Autumn months of the present year, at which all that concerns the welfare of the citizen should be illustrated. A Council has been formed and an Executive Committee appointed to carry out this project. Mr. John Nolen, of Cambridge, Mass., a gentleman of exceptional experience in the management of Civic Exhibitions and in all that makes for city improvement, has been engaged as Manager. He has acted as expert adviser in the re-planning of over twenty cities in the United States. The Linen Hall Buildings, off Capel Street, have been placed at the disposal of the Committee by the Commissioners of Public Works.

Civic exhibitions, though new to the United Kingdom, are well known on the Continent of Europe and in America, and have been markedly successful. The purpose of these exhibitions is to illustrate methods of dealing with the main problems which concern municipal life, such as the housing of the people, public health and prevention of disease, city slums and how to abolish them, lighting and cleansing, means of transport, upkeep of streets and roads, parks, open spaces and playgrounds, water supply, milk and food supplies

and inspection, care of the sick and poor, hospitals and benevolent institutions, the education of the young, the care of school children, continuation and technical schools, museums and schools of art, public libraries and reading rooms, and the whole business and industrial life of the city. The history of the growth of the city and plans for its development along approved lines will also be illustrated.

Closely associated with the Civic Exhibition is the project of a civic survey of Dublin, its present condition and its needs. Intimate knowledge of the conditions of life in the city which such a survey implies is indispensable before plans can be formulated and adequate measures taken for its improvement. There is an earnest desire on the part of those interested that a carefully considered plan should be laid down for the improvement of Dublin, so that in the future its character as a beautiful and dignified capital may be enhanced, whilst making provision for the development of its industries and for the accommodation of its workers in healthy and conveniently situated dwellings.

The President, His Excellency the Lord Lieutenant of Ireland, has generously offered a prize of £500 for the best plan towards the fulfilment of these objects, on the understanding that the competition will be adjudicated upon by experts of international reputation. The Lord Mayor of Dublin is giving his cordial support to the movement in his capacity as Chief Magistrate of the city. The Vice-President of the Department of Agriculture and Technical Instruction has promised the co-operation of the Department in organising a section of the exhibition.

It is the intention to arrange lectures and demonstrations in connection with most of the following sections of the Exhibition: Housing, Town Planning, Civic Survey, Health, Sanitation, Recreation, Road Making and Sewerage, Building Construction, Food Supplies, Industrial Schools, Technical Education, Art, Music, Urban and Rural Civics, Industries, &c.

BROMIDE ACNE TREATED BY VACCINE.

In the British Medical Journal, October 11th, 1913, Dr. Mark R. Taylor, of Helston, Cornwall, reports the case of a patient, aged about twenty, who had been taking potassium

or sodium bromide for three or more years. Her face was covered with a rash presenting every variety of acne. The usual methods of treatment had completely failed, but it was considered inadvisable to leave off the bromide. In the course of an article in the British Medical Journal in June or July, 1912, a couple of lines were quoted to the effect that Professor Strubell of Dresden had treated three or four cases of bromide acne with vaccines with good effect. Dr. Taylor wrote to Professor Strubell, who considers that bromide acne is almost always a staphylococcic infection, and that only in a few cases is it necessary to follow the opsonogen by a course of acne bacillus vaccine. At the same time he insists on the need of systematic local and dietetic treatment. The course of vaccine. too, is a long one, and from twelve to twenty injections, or eveu more, may be necessary. In the case referred to injections of the vaccine kindly forwarded by Professor Strubell-mixed staphylococci—were rapidly run up to 500 millions, and then maintained at that dose. Massage with ichthvol and salicylic soap was done twice daily, and a diet as far as possible free from fat carefully carried out. Improvement was very soon noticed, no fresh spots appearing after the third or fourth dose. After a series of ten doses the skin was clear of spots, and the sears of the old ones were fading rapidly. Three weeks afterwards one or two spots appeared, and a further series of five doses was given—since which time (a year ago) no further treatment has been required, although the patient has continued to take small doses of bromides. The disappearance of the discolouration of the skin has been, from the patient's point of view, not the least valuable part of the cure. Dr. Taylor has also used "opsonogen" with very good effect in five or six cases of furunculosis, and in a case of chronic periostitis following a wound of the shin.

A STRANGE EXPERIENCE IN DENTAL PRACTICE.

An inquest was held at St. Pancras on Saturday, March 7th, on the body of a fire insurance clerk, aged twenty-two, lately residing at Kentish Town. On Thursday evening the young man was placed under an anæsthetic of nitrous oxide gas in a dental surgery in Bartholomew Road for the purpose of having some teeth extracted. After one had been removed he

showed signs of distress, and the second operation was not proceeded with. Artificial respiration was applied, but without success, and he died in a few minutes. Dr. Spilsbury, pathologist, St. Mary's Hospital, who made the post-mortem examination of the body, stated that the administration of the gas had nothing to do with the death. There was tubercular disease of the upper part of the neck and skull, whilst a portion of the bone in the neck had become detached. The fourth vertebra of the neck had been fractured, and this had caused death. The vertebra was so diseased that any slight force or jerk would cause dislocation of the neck. The jury returned a verdict of "death by misadventure," and found that the operation was properly carried out.—The Times, March 9, 1914.

LITERARY NOTE.

Messrs. Longmans & Co. are proposing to issue a series of monographs on physiology, under the editorship of Professor E. H. Starling, F.R.S., dealing especially with those parts of the science in which at the present time research is most active and progress of knowledge most rapid. Each monograph will be entrusted to an author who himself is taking or has taken a leading part in determining the current ideas of physiologists on his topic, and it is intended that each volume shall give an account, not only of the present state of knowledge on the subject treated of, but also of the direction and tendencies of contemporary research. The size of the volumes will vary from 100 to 300 pages. The following monographs are in preparation:—"The Involuntary Nervous System," by Walter Holbrook Gaskell, M.A., M.D., F.R.S.; "The Physiology of Reflex Action," by Charles Scott Sherrington, M.A., M.D., F.R.S., F.R.C.P.; "The Conduction of the Nervous Impulse," by Keith Lucas, M.A., F.R.S.; "The Physiological Basis of the Action of Drugs," by H. H. Dale, M.D.: "The Secretion of Urine," by Arthur R. Cushny, M.A., M.D., F.R.S.; "The Contraction of Voluntary Muscle," by W. M. Fletcher. M.A., M.D.; "The Cerebral Mechanisms of Speech," by F. W. Mott. M.D., F.R.S., F.R.C.P.; "The Chemical Mechanisms of Integration in the Animal Body," by Ernest H. Starling, M.D., D.Sc., F.R.S., F.R.C.P

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Ung. "Cycloform" Co. (Bayer).

THE body from which the name of this ointment is derived viz., eveloform—is a benzoic acid derivative with pronounced anæsthetic and antiseptic properties. The fact that it is not absorbed makes the anæsthetic action a purely local one, while its use is obviously much safer than that of preparations of the cocain type. The ointment contains 10 per cent. of "cvcloform." The other constituents of the ointment, apart from the special selected ointment base, are extract of witchhazel 10 per cent. and oxide of zine in suitable proportion. Ung. "Cycloform" Co. is chiefly recommended in hæmorrhoids and pruritus of various types. Already many obstinate cases of pruritus have been reported in which great relief has been obtained by the use of the ointment. Beyond these obvious indications, however, the ointment may also be successfully used in ulcers, burns, eczema, chilblains, &c. The ointment is dispensed in collapsible tubes. It should be applied to the affected parts night and morning.

"Tabloid" Ophthalmic Zinc Sulphate Compound.

"TABLOID" Ophthalmic Zinc Sulphate Compound, issued by Messrs. Burroughs, Wellcome & Co., contains zinc sulphate, gr. 1,500 (0.00013 gm.); boric acid, gr. 1/20 (0.0032 gm.); tincture of opium, min. 1/15 (0.0039 e.c.); and "epinine," a synthetic produce, with activities similar in kind to those of suprarenal extract, gr. 1/10 (0.0065 gm.). This useful formula presents true astringents in the shape of zinc sulphate, which diminishes hypersecretion, and "epinine," which possesses powerful styptic properties and markedly reduces the ecchymosis of conjunctivitis; while, in virtue of its boric acid and opium constituents, the product is mildly antiseptic and analgesic. These special qualities, and the well-known general convenience, reliability, and keeping power of "Tabloid" Ophthalmic products, ensure for "Tabloid" Ophthalmic Zinc Sulphate Compound large opportunities in practice. In the relief of the painful and troublesome conjuctivitis, caused by dust-e.g., in the case of motorists and others—it has proved highly successful.

"Tabloid" Ophthalmic Zinc Sulphate Compound is issued in tubes of 12. The mydriatic power of epinine and its energy in raising blood-pressure, should be borne in mind when prescribing this tabloid.

THE DUBLIN JOURNAL

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MEDICAL SCIENCE.

MAY 1, 1914.

PART I. ORIGINAL COMMUNICATIONS.

ART. XIII.—Case of Carbolic Acid Poisoning.^a By Walter G. Smith, M.D.: President of the Royal Academy of Medicine in Ireland; ex-President, Royal College of Physicians of Ireland.

When I arrived at Sir Patrick Dun's Hospital early on the morning of Friday, February 20th, 1914, I was told that a woman had been admitted about an hour previously who was very ill from the effects of carbolic acid. It was subsequently ascertained that she had been in the habit of applying a carbolic lotion to her legs for the relief of varicose veins. She had obtained from a druggist in town a small bottle of acidum carbolicum liquefactum, and had been instructed by a doctor at one of the hospitals to add a few drops of this to a pint of water, so as to make a suitable lotion.

On Thursday evening, February 19th, she had poured some of the liquid phenol into a cup (about a teaspoonful she said), intended for the preparation of the lotion next day.

On Friday morning, forgetful of having placed the carbolic acid in the cup overnight, she put into the cup a dose of Eno's fruit salt, and swallowed the contents. Almost

• Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, March 27, 1914.

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immediately she fell to the ground nearly unconscious, and was brought to hospital.

When I saw her at 9 a.m., about one and a half hours after swallowing the poison, she was lying on a couch in the accident room. She was comatose, but restless, pale in colour, and had passed under her. The nostrils were widely dilated, the lips swollen and blue; slight corrosion at the right angle of the mouth, and the tongue was whitened.

Physically, she was a well-built woman, thirty-four years of age, married, and pregnant about seven months of her fourth child.

The pulse was feeble, 128 per minute, and the respirations 31. The temperature on admission was 96.7°.

The stomach was washed out with bread-soda and milk, and saline solution was injected subcutaneously. After a while she began to scream loudly, almost maniacally, and was put gently under the influence of ether more than once. About 10 a.m. a hypodermic injection of omnopon and scopolamine was administered, and this was repeated later on.

After she was brought up to the medical ward she vomited several times, and slowly recovered consciousness. She then stated that she felt very weak and drowsy, and had severe headache.

A catheter was passed about 9.30 a.m., and some ounces of urine were drawn off. The urine was dark yellow, and upon standing for some time deepened to a cairngorm brown colour. It contained a little albumen. Heated with Fehling's solution, it turned deep red, but did not yield a precipitate.

On the 22nd the urine was deep yellow, did not darken on exposure. She had slept fairly well, but complained of pain in the back.

Later on in the day of her admission the temperature rose to 101.4°; pulse slightly over 100, and respirations 30. Within four days the temperature fell to normal. She steadily gained ground, and was able to leave hospital on March 7th.

Fearing lest some mishap should occur to the fœtus, I asked my colleague, Dr. Henry Wilson, to see her. He determined that the child was alive, and did not apprehend any serious consequences. This opinion proved to be correct.

Unluckily, after leaving hospital, fresh misfortunes overtook her. She developed a moderate pleural effusion on the right side, and some days later thrombosis of the veins of the left leg occurred, and she is now again a patient in Sir Patrick Dun's Hospital, but is doing fairly well.

The milky fluid removed from the stomach by lavage was acidulated with H₂ SO₄ and distilled, furnishing a clear distillate in which phenol was easily detected. It is futile to test directly for phenol in urine or vomit. The tests employed were these, which I will demonstrate to you:—

(1) Addition of weak *liquor* ferri perchloridi gave a violet-purple colour.

(2) Bromine water gave an abundant white precipitate tri-bromphenol (Landolt's test).

(3) The distillate warmed with a few drops of Millon's reagent turned rose-red (Plugge's test).

(4) The distillate when warmed with a little liquor ammoniæ, and then some bromine water added, developed a fine blue colour (Berthelot's test).

In the absence of other aromatic derivatives of benzene, the sum of these tests is conclusive evidence of the presence of phenol.

I propose now to make a few comments upon these tests, and then advert to the question of excretion of phenol from the body.

TESTS.

- (1) The ferric test is best carried out with aqueous solution of Fe₂ Cl₆.
- (2) Bromine must be added carefully but in adequate amount. The reaction is:—

 $C_6H_5 \text{ OH} + 3 \text{ Br}_2 = 3 \text{ HBr} + C_6H_2\text{Br}_3 \text{ OH}.$

This precipitate when filtered off and weighed affords

the means of quantitatively estimating phenol. If a *large* excess of bromine be added a yellow precipitate is obtained of brom-tribromphenol, C₆H₂ Br₃O Br.

- (3) Millon's reagent reacts similarly with many other hydroxyl derivatives of benzene—e.g., tyrosin—and is often used in testing for that substance.
 - (4) Phenol and ammonia form aniline.

 $C_6H_5O.OH + NH_3 = H_2O + C_6H_5NH_2$ (aniline).

The aniline is oxidised by the bromine with the formation of indophenol.

EXCRETION.

Speaking generally, "aromatic compounds"—i.e., derivatives of benzene—are much more stable in the body than compounds of the fatty (aliphatic) series—e.g., carbohydrates and fats. These latter substances are easily oxidised, and pass out as CO₂ and H₂O.

Aromatic compounds, on the other hand, seldom undergo complete oxidation or destruction within the animal organism.

(1) They are usually excreted mainly as complex aromatic compounds, and most frequently in union with (conjugation) certain acid radicals.

The two favourite acid radicals with which they pair are the sulphuric ion (SO₄) and glycuronic acid.

This glycuronic acid $HC_6H_9O_7$ is a carbohydrate derivative, and is not found free in the body. But it has been abundantly proved to be a frequent factor in the excretion of a large number of aromatic compounds—e.g., the volatile oils—and this important discovery leads to some interesting results.

The union of phenol with sulphuric acid is also of much interest, not only theoretically but practically. It has been shown beyond cavil that phenol is excreted in the urine mainly as potassium phenyl-sulphate—a so-called ethereal sulphate.

Its formula is C₆H₅O.SO₃K.

Hence it is at once seen that phenyl-sulphates are isomeric with another and more stable class of salts, com-

monly known as sulpho-carbolates, and, by chemists, as phenol sulphonates.

E.g., the sodium sulphocarbolate of the British Pharmacopæia is C_6H_4 OH SO_3Na , which does not contain the phenyl (C_6H_5) radical.

Neither of these salts yields a precipitate with BaCl₂ because their Ba salts happen to be soluble.

Hence we get the explanation of what at first sight seems a curious thing.

Everyone knows that Ba Cl₂ is the ordinary test for inorganic SO₄, simply because Ba SO₄ happens to be very insoluble.

But carboluria may, and often does, yield little—perhaps no—precipitate with Ba Cl₂ because the available SO₄ is locked up in the form of phenyl-sulphates. It is absurd to say that the SO₄ disappears from the urine.

Moreover, both phenyl-sulphates and phenol-sulphonates are much less toxic than phenol itself, and from this fact we draw two conclusions:—

(a) That the organism has a certain degree of self-protecting power against phenol, limited by the amount of available SO_4 at its disposal.

(b) That it is useful, in the treatment of carbolic poisoning, especially when not very acute, to freely administer soluble sulphates—e.g., Na₂ SO₄, so as to favour the production of the comparatively innocuous phenyl-sulphate. The sulphate may be injected either subcutaneously or intravenously. When carbolic acid is injected slowly into the vein of a dog the animal shows all the signs of collapse, the respiration becomes extremely shallow, and the blood-pressure drops almost to zero.

If now a solution of Na₂ SO₄ is injected the animal is at once relieved, the respiration recovers, and the pressure quickly rises.

(2) Only a small portion of the phenol is excreted in the urine as phenol-glycuronic acid, $C_{12}H_{14}O_7 = C_6H_5C_6H_9O_7$,

But glycuronic acid compounds are strong reducing agents, and accordingly it has been found in some cases of carboluria that the urine reduces Fehling's solution. This reduction is not due to the presence of glucose, and, moreover, such glycuronic urines are lavogyrate.

(3) To a very small extent phenol is excreted in an oxidised form, in the guise of two isomeric di-hydro-phenols—viz., pyrocatechin and hydroquinone. These products are also conjugated with sulphuric and glycuronic acids, and contribute to the reducing power of carboluria.

Hydroquinone is the chief source of the colour changes (green to nearly black) so often observed in carboluria as well as after the ingestion of other aromatic compounds—e.g., creosote, analgen, &c.

The exact nature of the coloured products is not known. They appear to spring from the gradual oxidation of decomposition products of the ethereal compounds of pyrocatechin and hydroquinone.

Resorcin, the third possible dihydric isomer, has, so far as I know, never been detected in carboluria.

In this connection it may be remarked that while it is common for two out of three possible isomers to be formed at the same time, by a given reaction, yet, for some reason or other, it rarely happens that all three isomers are simultaneously produced.

For the sake of clearness in relation to a somewhat intricate subject I have endeavoured to arrange in tabular summary the chief points to which I have referred.

Excretion	Results				
(1) As phenyl-sulphates .	Hence three consequences:— (a) Therapeutic utility of sulphates. (b) Apparent diminution of SO ₄ . (c) To liberate phenol by distillation, first add H ₂ SO ₄ to break up conjugated compounds.				
(2) Di-atomic phenols— Hydrochinon; Pyro- catechin	Dark colour of urine.				
(3) As paired glycuronic acids	Reducing power.				

ART. XIV.—Typhus: its Ætiology and Treatment.* By DOROTHY K. MILNE, B.A., M.D. Univ. Dubl.

In spite of the fact that typhus fever has now ceased to appear in epidemic proportions in Ireland, yet the slight increase it has shown during the last few years has served to stimulate our interest in a disease hitherto so much dreaded and so little known.

Moreover, the splendid researches of Nicolle, Wilder and Ricketts on typhus and allied diseases have not only thrown much light on a subject about which we were supremely ignorant, but they have indicated the road to further investigations, and made suggestions which may reasonably be hoped to lead to a more complete knowledge of the disease and its causative agent.

Before discussing the different aspects of the disease it might be well to state briefly the salient features of a typical case which was lately under my care. The incubation period lasted about twelve days, during which time there was little more than an indefinite feeling of malaise.

The onset was sudden, marked with several rigours and severe pain in the head, back, and legs.

The tongue was at first dry, furred and white, and later it became brown and cracked, and, with the lips and teeth, was covered with sordes.

The face was flushed and the conjunctive injected. Vomiting was an early symptom, and there was some diarrhea. There was also considerable deafness, the patient being stupid and apathetic, and the prostration was early and marked.

The eruption appeared on the fourth day, first upon the chest and abdomen and later upon the face and limbs. Unlike that in typhoid, the eruption does not come out in crops. It is a "double" rash, composed of a dusky subcuticular mottling, which gives the skin a dirty appearance, contrasting strongly with the peculiar white skin of even dirty typhoid patients; and combined with

^a A Thesis read for the Degree of Doctor of Medicine in the University of Dublin, December, 1913.

this there are distinct papular spots, rose coloured and changing later into petechiæ.

During the second week the disease was at its height, the full rapid pulse became feebler and more rapid, active delirium passed on to coma, there was incontinence of fæces and retention of urine, and the patient died with all the symptoms of toxæmia.

The temperature, which rose steadily during the first four days, with very slight morning remissions, was at its maximum of 104.4° Fahr. on the fifth day.

In the cases under my care which recovered the fever continued between 103° and 105° Fahr. until the crisis, which came usually on the twelfth to the fourteenth day.

In two cases the crisis was replaced by a rapid lysis, and in two others, who were children, the lysis was prolonged.

In one fatal case under my observation there was a pseudo-crisis, the temperature falling to normal, only to rise again to 103° Fahr. or higher on the following day.

Three cases developed pulmonary symptoms, a very common complication, which occasionally passes on to gangrene of the lung.

Necrosis of the extremities, of the nose, lips, or cheeks is also an occasional sequel.

In one of my cases necrosis of the lower jaw occurred, beginning in the third week of convalescence and continuing, with intermittent fever, for eight or ten weeks until all the sequestra had separated, and the patient made an ultimate recovery.

It is interesting to note that this sequel was specially described by St. Cyprian, writing from his bishopric at Carthage during an epidemic of typhus in the third century.

In typhus, as in diphtheria, the virus seems to have a special action on the heart, and syncope in convalescent patients is not an infrequent occurrence.

Enlargement of the spleen, though not a constant feature of the disease, was present in three of my cases, but no macroscopic pathological changes were found in the fatal cases at autopsy, other than those common to all infective fevers.

An interesting lesion of the polymorpho-nuclear leucocytes, first described by Nicolle of the Pasteur Institute, is most readily observed on staining blood films with Giemsa's stain. The nuclei are fragmented and assume a peripheral position in the cells. Peculiar granules appear in the cytoplasm, which stain more strongly as the infection proceeds.

Ricketts and Wilder found a short bacillus in the blood of patients approaching their crises.

Nicolle, however, failed to find it in any of his cases, and considered it too rare to be answerable for the disease.

The Widal reaction was positive in two of my cases, a fact worth emphasising in diagnosis.

Nicolle, experimenting in an epidemic near Carthage, where the disease is still rife, succeeded in infecting apes by inoculation with the blood of typhus patients. The higher the ape the more easily was it infected, and the more closely did the disease resemble the human type, particularly that occurring in young children.

The blood was found to be virulent from the first hours of fever to the second day of convalescence.

The bearing of this part of Nicolle's work on the ætiology of the disease is so significant that I venture to give it in brief:—

Injection of whole blood from typhus patients effectively produced the disease in the ape.

Injection of serum obtained by centrifuging defibrinated blood induced typhus.

Injection of serum, whether filtered or unfiltered, obtained from coagulated blood, rarely produced the disease, but was capable of producing it.

Lastly, only those body fluids which contained organised elements were toxic when infected.

From these data Nicolle deduces two things:-

First, that the virus is capable of passing through a Berkefeld filter.

Secondly, that the virus is contained in the organised elements of the body fluids; and that it is for this reason that the serum of defibrinated blood, where the corpuscles are disrupted by the centrifuge, is much more toxic than the serum from coagulated blood where the virus is retained in the clot.

It is in this connection that the changes in the polymorpho-nuclear leucocytes to which I have already referred acquire significance.

With regard to the transmission of the disease, it has been noticed that typhus originates in crowded districts, where soap is scarce and vermin abound.

Nicolle records that a warder in Tunis jail was seriously infected with typhus twelve days after receiving a single louse-bite in the neck. He also observed a fatal result after a single bite. He then transferred lice from typhus patients to apes, and found that though some acquired the disease the lice were only infective from five to seven days after having bitten the patients.

This limited infectivity of the louse points to a possible cycle of development of the virus in this intermediate host.

The louse convicted of transmission is the ordinary body-louse. There is a clinical superstition to the effect that it is a peculiar red variety, but this is only a superstition. The louse merely appears red because it contains a meal of red blood.

Nicolle, Ricketts and Wilder have thus satisfactorily demonstrated the manner in which the disease is transmitted from case to case in an epidemic, but the fact that the louse is only infective from the fifth to the seventh day leaves unsolved the problem of how typhus originates after longer intervals.

Our debt to Nicolle does not end here, for he has shown that a variety of typhus, so mild that its only constant symptom is a rise of temperature, may occur in children, and that the blood of such a case may cause severe typhus in the ape.

It follows, therefore, that all febrile disturbances in

children from an infected locality are suspicious and call for quarantine.

Mild sporadic cases also occur in adults.

Brill has recently described a disease in America, rarely fatal and never contagious, which is otherwise identical with typhus, and is possibly due to an attenuated virus.

It is conceivable that an increased virulence or a lowered resistance might supervene in mild cases, and thus cause a typical epidemic, and one is tempted to advance this theory to explain the unsolved problem of how the virus passes from one epidemic to the next.

Concerning the prophylaxis of the disease, it is important to note that the virus is destroyed between 50° and 55° C.

Numerous methods of treatment have been employed, the most rational of which seems to be the serum therapy employed by Rayneud and Legrain in 1896.

Nicolle in later years, however, found it to be useless and until we have a more complete knowledge of the virus we have to rest content with the treatment of symptoms.

Besides the careful nursing that every fever demands, special treatment should be directed against the toxemia and low blood pressure arising during the second week.

In my opinion the early transfusion of normal saline solution is the most satisfactory treatment, and even in two of my worst cases it undoubtedly prolonged life.

ART. XV.—Notification of Tuberculosis in Ireland: its failure and the reasons therefor. By SIR JOHN MOORE, M.A., M.D., M.Ch., D.P.H., Dubl.; D.Sc. (Honoris Causâ), Oxon.; F.R.C.P.I.; Honorary Physician to H. M. the King in Ireland; Senior Physician to the Meath Hospital and County Dublin Infirmary; Professor of Practice of Medicine in the Schools of Surgery, Royal College of Surgeons in Ireland.

IRELAND enjoys the unique distinction of being the first division of the United Kingdom to apply the principle of

^a Read before the Section of State Medicine in the Royal Academy of Medicine in Ireland on Friday, April 17, 1914.

"Notification" to Tuberculosis by means of an Act of Parliament. This important step in the crusade against what has been somewhat picturesquely styled "The Great White Plague" was made legal by the Tuberculosis Prevention (Ireland) Act, 1908 (8 Edward VII., chapter 56), commonly called "Birrell's Tuberculosis Act," but in regard to the enactment of which Her Excellency the Countess of Aberdeen bore an honourable and not inconspicuous part.

This Act came into force on July 1, 1909. Its provisions are arranged in twenty-four sections, and the measure consists of four Parts, which deal respectively with—(1) notification and disinfection, (2) hospitals and dispensaries, (3) sanitary provisions, (4) general matters, including definitions.

Unfortunately, Part I., relating to notification and subsequent disinfection, is permissive and not compulsory. Section 3 provides—" (1) This Part of this Act shall extend to any urban or rural sanitary district in Ireland after the adoption thereof. (2) The Sanitary authority of any such urban or rural sanitary district may, subject to the approval of the council of any county in which the district is situated, adopt this Part of this Act by a resolution passed at a meeting of the authority. (3) Fourteen clear days at least before the meeting a summons to attend the meeting, specifying the business to be transacted, and signed by the clerk of the sanitary authority, shall be sent by post to, or delivered at the usual place of abode of, every member of the sanitary authority. (4) A resolution adopting this Part of this Act shall be published by advertisement in a local newspaper and by handbills, and otherwise, in such manner as the sanitary authority think sufficient for giving notice thereof to all persons interested, and shall come into operation at such time (not less than one month) after the first publication of the advertisement of the resolution as the sanitary authority may fix, and, upon its coming into operation, this Part of this Act shall extend to the district."

The result of this permissive section has been that on

March 31, 1913—the latest date for which official information is available at present—the notification of tuberculosis, in pursuance of Part I. of the Tuberculosis Prevention (Ireland) Act, 1908, had been adopted in only 50 out of the 311 districts into which the whole of Ireland is divided for public health and local government purposes. A list of the sanitary districts which had adopted Part I. is given at page xxvii. of the Annual Report of the Local Government Board for Ireland for the year ended March 31, 1913. That list includes 22 out of 96 urban districts, and 28 only out of 216 rural districts—truly a poor show after four years. The following significant paragraph follows the list:—"It is to be hoped that. before long, steps will be taken to introduce the compulsory notification of tuberculosis in all the larger Urban Districts. Such a course is specially desirable in the County Boroughs of Cork and Waterford, where the incidence of phthisis is particularly heavy." This stereotyped paragraph has appeared year after year in the Annual Reports of the Board.

Through the courtesy of Mr. J. E. Devlin, Assistant Secretary of the Local Government Board, I am enabled to state that during the year ended March 31, 1914, 5 Sanitary Districts, including the County Borough of Waterford, have adopted Part I. of the Tuberculosis Act, Waterford County Borough came in on March 1, 1914. This brings the total number of districts in which the Act is operative up to 55, namely—3 county boroughs, 20 urban districts, and 32 rural districts.

In the year 1912, the Irish Local Government Board found that the Tuberculosis Prevention (Ireland) Act, 1908, required to be amended in order to meet the altered circumstances consequent upon the passing of the National Insurance Act in 1911. They had also become fully aware how completely the notification sections of the Tuberculosis (Ireland) Act of 1908 had failed to secure their object. Accordingly, in the Parliamentary Session of 1912 a short Bill was drafted with the primary object of facilitating the County Councils in making arrangements

for the treatment of insured persons. The opportunity thus afforded was also taken to include provision for the compulsory notification of all cases of pulmonary tuberculosis. But the Bill was opposed owing to the compulsory notification clauses, and these had to be deleted, as otherwise the Bill would not have been passed. "It is much to be regretted that compulsory notification of the disease had to be omitted, as it leaves this country in the unfortunate position of being the only portion of the United Kingdom where it is not in force, although the disease is more prevalent in Ireland, and consequently notification is more urgently required." These are not my words, but those of the members themselves of the Irish Local Government Board.

In England and Wales notification of every case of pulmonary tuberculosis must be made by the medical attendant to the Medical Officer of Health within forty-eight hours after the medical attendant first becomes aware that his patient is suffering from pulmonary tuberculosis. Such notification is made by a Medical Officer of a Poor Law Institution or a District Medical Officer under the "Public Health (Tuberculosis) Regulations, 1908," which came into force on January 1, 1909. A medical officer of any hospital must notify in like manner under the "Public Health (Tuberculosis in Hospitals) Regulations, 1911 ": and every medical practitioner attending on or called in to visit any person found to be suffering from pulmonary tuberculosis in any stage must notify under the "Public Health (Tuberculosis) Regulations, 1911." These Regulations must be put into operation by every County and District Council.

Section 7 of the Tuberculosis in Hospital Regulations, 1911, provides that no enactment in force shall render persons notified liable to any restrictions or loss of employment. Further, every County or District Council, on the advice of the Medical Officer of Health, shall disinfect premises or articles, or destroy or dispose of infectious discharges, give facilities or assistance, and supply articles such as spittoons to diminish the risk of spreading infec-

tion; appoint officers, and do whatever is necessary to carry out these Regulations and those enacted in 1908. On the advice of the Medical Officer of Health leaflets may be distributed, containing advice regarding precautions, &c., to be taken by infected or other persons.

In Scotland very similar provisions for notification are in force. Regulations issued by the Scottish Local Government Board enact that all cases of phthisis must be notified to the Medical Officer of Health within forty-eight hours.

Now, compare the case of Ireland in regard to this matter.

In the first place, the adoption of Part I. of the Act does not lie entirely in the discretion of the local sanitary authority, save in the case of the six county boroughs in Ireland—namely, Dublin, Belfast, Londonderry, Cork, Waterford, and Limerick—the urban sanitary authority of which towns is, in each instance, also a County Council in itself. In all other cases the adoption of this Part of the Act by a sanitary authority is subject to the approval of the Council of the county in which the district of such authority is situated. This provision introduces an element of possible conflict of opinion between the legally constituted sanitary authorities of the county and the County Councils (outside the six county boroughs), bodies endowed and entrusted with no sanitary powers by the Local Government (Ireland) Act of 1898.

The permissive nature of the first part of the Tuber-culosis Prevention Act—the really essential portion of the measure—to my mind, dealt a fatal blow to its power as an effective preventive agency.

Worse still was the provision contained in section 1, subsection 2, of the Act, whereby the duty of determining the forms and stages of tuberculosis to which, and the circumstances in which, the principles of compulsory notification shall apply, was entrusted to the Local Government Board for Ireland after consulting with the President of the Royal College of Physicians of Ireland and the President of the Royal College of Surgeons in Ireland. The President

dents were thus constituted an "Advisory Committee," on paper.

In the end, it is an open secret that the Presidents were not asked in the first instance what their views were—that is to say, they were not consulted in the ordinary sense, but were merely asked to approve the forms and stages of tuberculosis which the Local Government Board for Ireland "determined" should be notified.

On June 3, 1909, the Local Government Board issued an "Order" prescribing the forms and stages of tuberculosis to which, and the circumstances in which, section 1 of the Tuberculosis Prevention (Ireland) Act should apply. This "Order" came into operation on July 1, 1909. It prescribed that in every district to which Part I. of the Act extends, section 1 of the Act shall apply in the form of tuberculosis known as "tuberculosis of the lung," at any stage at which the sputum discharged by the person suffering is, in the opinion of the medical practitioner attending on such person, liable to communicate the disease to other persons. So far so good, but it was further provided by the Order that the section of the Act in question shall apply only in the following circumstances—that is to say, where the person suffering:—

"(1) Habitually sleeps or works in the same room as any other person or persons not so suffering; or

"(2) Is employed or engaged in handling, preparing, or distributing milk, meat, or any other article of human food intended for sale to the public."

The extreme limitation of the circumstances under which notification is to be made renders the procedure of little or no value for statistical purposes, or even for prevention of tuberculosis. Only tuberculosis of the lung is to be notified, and that form of the disease only when the *sputum* is regarded as infectious. There may be no *sputum*, or bacilli may be absent when a specimen is examined. Tubercular meningitis and intestinal tuberculosis, so common and so fatal in young children, are ignored, and so also are all forms of surgical tuberculosis, affecting the lymphatic glands, the skin, and the joints.

I am aware that it is only pulmonary tuberculosis which is compulsorily notifiable in Great Britain. notifiable in all its stages and under all circumstances. Other forms of tuberculosis are, of course, not so dangerous from the point of view of infection, or so likely to prove fatal. Of the deaths from all forms of tuberculosis registered in Ireland during the ten years 1902-1911, inclusive (11,355 in number), pulmonary consumption, or "phthisis," contributed exactly 77 per cent. In 1912, the percentage rose to 79 per cent.—7,452 deaths out of a total of 9.437 being due to phthisis. From these facts it will be seen that notifications of the pulmonary form of tuberculosis if made in all cases and at all stages would not only afford valuable information for statistical purposes, but also aid materially in the effort to combat this deadly enemy of mankind.

In each of the Annual Reports of the Local Government Board to His Excellency the Lord Lieutenant for the past four years a yearly summary is given of notifications of tuberculosis received in Belfast County Borough and in Dublin County Borough, classified according to age and sex. The following tables appear at page xxviii. of the Report for the year ended March 31, 1913:—

Belfast County Borough.

Notification of Tuberculosis for Year ended March 31, 1913.

Age periods						Males	Females	Total
Un	der 5 y	7ears				5	4	9
5 y	years ai	nd unde	r 10		-	3	5	8
10	99	99	15	-	-	15	15	30
15	,,	99	25		-	59	88	147
25	,,	,,	35	-	-	44	69	113
35	,,	,,	45		-	37	54	91
45 3	45 years and upwards				-	26	24	50
		Tota	ıl		-	189	259	448

DUBLIN COUNTY BOROUGH.

Notifications of Tuberculosis for Year ended March 31, 1913.

Age periods		Males	Females	Total	
Under 5 years -		-	7	4	11
5 years and under 10	-		6	8	14
10 ,, ,, 15	-	-	1	8	9
15 ,, ,, 25	-	-	46	65	111
25 ,, ,, 35	-	-	53	97	150
35 ., ., 45	-	-	50	83	133
45 years and upwards	•	-	38	61	99
No age stated -	-	-		1	1
Total	•	•	201	327	528

The members of the Local Government Board comment as follows on these tables:—

"The total number of notifications is, in the case of Dublin County Borough, approximately the same as in the previous year, but shows a substantial reduction in the case of Belfast County Borough. In both instances, however, the notifications fall short of the recorded deaths from pulmonary tuberculosis, and cannot, therefore, be regarded as affording a complete index of the incidence of the disease. In the interests alike of patients and of the general community, it is important that notification should take place before the disease has reached an advanced stage, and it is to be hoped that sanitary authorities will bear this consideration in mind in connection with their administration of Part I. of the Tuberculosis Prevention (Ireland) Act. 1908."

How far the notifications fell short of the deaths from

pulmonary tuberculosis in Dublin and in Belfast during the year ended March 31, 1913, will appear by a reference to the Registrar-General's Quarterly Returns of Births and Deaths. In the City of Dublin such deaths numbered 842, compared with 528 notifications; in the City of Belfast the deaths were 813, compared with 448 notifications.

During the year ended March 31, 1914, the corresponding figures were:—Dublin: deaths, 1,069; notifications, 1,015. Belfast: deaths, 806; notifications, 414. The notification of tuberculosis, therefore, appears to be improving in Dublin, but quite the reverse in Belfast.

These figures appear to prove three things:-

First, that many, very many, cases of pulmonary tuberculosis are not notified at all in the largest cities of Ireland.

Secondly, that the limitations as to the conditions of notification laid down in the "Order" of the Local Government Board render notification as practised in Ireland useless for statistical purposes.

Thirdly, that it is obvious that the sanitary authorities do not receive that information relative to the prevalence of pulmonary tuberculosis which would enable them to cope successfully with that affection.

What is the remedy for the existing unsatisfactory position of notification of tuberculosis in Ireland?

Clearly it is that the Local Government Board should give full effect to the provisions of subsections (1) and (2) of section 1 of the Tuberculosis Prevention (Ireland) Act, 1908. Let the "Order" of June 3, 1909, "prescribing the forms and stages of tuberculosis to which, and the circumstances in which, section 1 of the Act shall apply" be repealed or amended, after consultation with the Presidents of the Irish Royal Colleges. In a new amended "Order" the "prescribed circumstances" under which notification is to be made should be extended, and applied to all forms of pulmonary tuberculosis in all stages of the disease (this provision is in force throughout Great

Britain), as well as to such cases of surgical tuberculosis as are open and "running" and so infectious All this can and should be done under the Act of 1908, if notification is to serve any good scientific or hygienic purpose.

ART. XVI.—Disordered Bladder Function in Nervous Diseases. By William Boxwell, M.D., Dubl.; F.R.C.P.I.; Physician to the Meath Hospital and County Dublin Infirmary.

It may seem a matter of surprise that any one should bring such a worn-out subject as incontinence of urine before this or any Section of the Academy. But commonplace as the subject is, it is one which is little understood, although one hears a good deal of dogmatic teaching as to its causation. The frequent occurrence of this symptom among the patients suffering from nervous disease of one sort or another admitted to my beds in the Meath Hospital has been a source of considerable worry. At one time it almost assumed the form of an "outbreak," and as the symptom is an unpopular one, the only way of turning it to account was to make some effort to understand why it occurred.

My impression of the *modus operandi* of this function an impression derived from past teaching, and from the account in most text-books on Physiology and Medicine was more or less as follows:—

The function of micturition has a centre in the lumbar cord. Afferent impulses reach this centre by fibres in the 3-4 sacral nerves, and efferent impulses leave the cord by the second, third and fourth lumbar roots to the superior mesenteric ganglion, and thence *viâ* the hypogastric nerves to the bladder. This is, roughly, the description given by Allen, Starr, Starling, and others.

According to Starr the reflex mechanism controlling the bladder and rectum is located in the fourth and fifth sacral segments of the spinal cord. Sensory stimuli starting

^{*}Read before the Section of Medicine in the Royal Academy of Medicine in Ireland on Friday, March 27, 1914.

the reflex come from the mucous membrane of the bladder, and passing inward produce two separate effects.

(1) An active motor impulse of contraction of the muscles which empty the organ.

(2) An inhibitory impulse on the muscles normally constricting the opening.

"Evacuation of the contents by a reflex act may occur without the knowledge of the individual or without his control, when disease cuts off the lower part of the cord from its communication with the brain, as in transverse myelitis in the dorsal region. We then have a condition known as active incontinence in which the organ is emptied spontaneously at intervals in a normal manner."

"The mechanism itself, however, may be destroyed by any lesion of the sacral region of the spinal cord. Under these circumstances the reflex arc being broken and the motor cells controlling muscular action being destroyed, the organ is no longer evacuated by reflex impulses and evacuation has to be attained by outside aid.

In some individuals a distention of the bladder finally overcomes a constrictive action of the sphincters and then there is a constant leakage = "passive incontinence."

In others the constrictive action of the sphincters is unusually strong, and occasionally a distention will lead to a rupture of the bladder rather than to its evacuation by water pressure. Sometimes there is a permanent weakness of the sphincter and a constant dribbling of urine without any distention of the bladder."

According to Nawrocki and Skabitschewsky, quoted in Howell's Physiology, the centre is the *sacral* cord, the afferent fibres to the centre coming by the second, third, and fourth sacral posterior roots, and the efferent fibres leaving by the anterior roots from the same segments, namely, the second and third sacral.

According to Goltz the centre is in the *lumbar* cord: somewhere between the second and fifth lumbar segments.

According to either view then of the position of the

centre the behaviour of the bladder ought to be simplicity itself.

Injury, such as occurs in transverse myelitis or fracture of the spine *above* the lumbar or sacral centre, would cut off the cerebral control, and leave the centre still intact, to work out its own salvation, as an infant's bladder centre works, co-ordinately and at definite intervals, emptying the bladder in a normal manner = "active incontinence."

If, on the other hand, the injury were such as to destroy the centre itself the whole mechanism would break down completely, the downward steps being retention, then distention, passive dilatation of the sphincter, with involuntary passage, and then constant and continuous dribbling of urine through permanently patent sphincters = "passive incontinence."

Now, certain questions arise at once in considering this theory. First of all, where is this centre? We know within a millimetre the position of the respiratory centre and the vasomotor centre, but the bladder and rectum centre is somewhere between the second lumbar and the fourth sacral inclusive—eight segments!

Again, while there seems to be little doubt of the importance of the second, third, and fourth sacral nerves in conducting afferent impulses for this reflex, there does not seem to be any definite impression as to which of the lumbar or sacral nerves are most concerned in the emission of the efferent inpulses.

As regards the controlling fibres in the cord it might be thought that a study of the spinal lesions in the cord in various forms of nervous disease would point, at any rate, to the position of the conducting tracts between the brain and the supposed centre in the cord. But this method fails us. For while bladder disturbance is an invariable rule in certain stages of myelitis—when the condition is such that the entire activity of the cord at the site of the lesion is suppressed—still, if the individual tracts are taken seriatim, there is no quite constant relation between a tract degeneration and a particular form of bladder

trouble. For example: a disorganised bladder function is excessively rare, if indeed it occurs at all, in anterior poliomyelitis even when it involves the "conus." In fact in the only cases—two or three—that I could find in the literature bladder trouble was recorded as the "only symptom," the nature of the disease being diagnosticated on the strength of a single isolated symptom known never to occur in that disease.

The anterior grey horns, therefore, are not the transmitting stations for the bladder reflex. Biadder trouble is quite the exception in spastic paraplegia, whether due to compression or to degeneration, unless there is a concomitant myelitis, a fact which would seem to rule out the motor path altogether. In ataxic paraplegia it is always present, whereas in Friedreich's ataxia it is invariably absent. It occurs in a haphazard way in disseminated sclerosis, and in a very variable form in tabes. "It occurs occasionally in tumours of the frontal lobe [Dr. Moorhead described a case of this kind before the Academy of Medicine about three years ago], and according to some authors it is a common occurrence in hemiplegia, and occasionally in multiple neuritis.

It is a noticeable fact that when reading of the physical signs and symptoms of a nervous disease we are generally told simply that the bladder is or is not "affected," while the particular kind of "affection," whether "active" or

"passive" incontinence is not stated.

Does it not appear as though there were something amiss with the theory of bladder function as usually propounded? One might, nevertheless, be willing to accept it as substantially correct if we found that, clinically, failure of the bladder function did present itself definitely in one or other of these two forms, even though we admit ignorance alike of the position of the conducting tracts, and of the centre. But even the clinical evidence is conflicting or ambiguous. I have found it impossible to separate these two distinct forms of incontinence—active and passive. It seems to me that the difference, if diffe-

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rence there be, is one of degree rather than one of kind. That is, taking one case with another, it is a question of frequency and the ease with which the reflex act of micturition may be set going, by mechanical, emotional, and other stimuli; and in watching the evolution of a case of acute myelitis, involving the lower dorsal and lumbar sacral cord, one does not find that the form of incontinence changes from passive to active as the case progresses towards recovery. In the earlier stages one may find a complete flaccid paralysis with less jerks and anæsthesia and incontinence of the bladder and rectum. An incontinence of the bladder showing itself, not in my experience as a continuous dribbling, but in the form of repeated small evacuations, induced either by a rise of ordinary water pressure or by a change of posture involving some slight muscular effort. In the same case six months later we may find a typical transverse myelitis of the lower dorsal region with spastic paresis, sensation returned wholly or in part, and a bladder still discharging involuntarily, but at larger intervals—a condition one can cope with more or less successfully by judicious use of a catheter until recovery of the function has been completely restored with restored voluntary control of the external sphincters.

The physiology of the bladder function has long been debatable. One of the points at issue being the nature of the contraction of the bladder which was found to follow upon stimulation of the upper cut end of one hypogastric nerve. Some held that this contraction was a genuine reflex act, that there were sensory fibres in the nerve as well as motor, and that the centre was in the hypogastric plexus—a genuine peripheral neural reflex, like peristalsis of the bowel. Others called the act an "axon reflex," depending upon the division of purely motor axons, exactly analogous to the "gastrocnemius" paradoxical contraction in a frog. This latter view, until quite recently, held the field. Recently, however, the whole position has

been vigorously attacked, and, I think, rightly so. The leaders are Langley and Müller. As regards the centre, Müller maintains that we cannot locate it, because there is no centre in the cord. According to him the centres for the evacuation of the bladder and rectum are not in the spinal cord at all, but in the sympathetic ganglia of the pelvis. He supports this view on experimental grounds, by the well-known fact that the discharge of urine and fæces is only incited by the will, but represents really an involuntary process, and, lastly, by the complete similarity—according to his observations—of the functional disturbances in transverse lesions affecting different levels of the spinal cord, including the conus medullaris (Oppenheim).

According to Müller's view the physiology of micturition would be something like this. We have a reflex within a reflex An internal visceral reflex over which we have no voluntary control at all, whose arc would be the bladder mucous membrane, hypogastric nerves, containing sensory and motor fibres, and a centre in the inferior mesenteric ganglion. This reflex would regulate the coordinated action of a detrusor and an internal sphincter. It would be subject to great variety of impulses, sensory and psychical, causing variations in the tone of the bladder wall, and reaching the centre through the sympathetic system. Outside this, and under the control of the will, we would have another reflex whose are would be the membranous urethra, centripetal sacral nerves, and centrifugal motor fibres to the striated external sphincter bulbocavernosus muscle, compressor urethræ, levator ani, &c.

The working of this outer reflex would be merely accessory, assisting in the neat performance of the act of micturition, though not essential to the discharge of the bladder contents. The behaviour of the bladder then would be essentially the same in all accidents of the cord, irrespective of their position, which interfere with our voluntary control of the act as normally performed.

The cases recently under observation illustrating this

symptom have comprised two of myelitis; one of alcoholic neuritis, two of hemiplegia, and two of locomotor ataxia, and I shall briefly state some of the points of interest in these cases. The first case of myelitis was syphilitic in a man aged thirty. Whatever the precise condition of his cord may have been, he suffered from flaccid paralysis, anæsthesia, and incontinence of both bladder and rectum. The condition had set in acutely with marked meningeal symptoms, and his C-S. fluid gave a + 4 reaction to the Wassermann-Fleming test. Under repeated salvarsan administration—three doses—he recovered, with, however, some spastic paresis. In his case, the recovery of bladder function was quite gradual, and as the return to normal approached, the incontinence could be easily circumvented by the use of a bed-bottle. At no time, however, was there a continuous drop-by-drop dribble.

The second case was the child shown at this meeting. When at his worst his bladder discharged in little jets every five or ten minutes. I set two nurses to watch him and that was the report. Only the other day in helping him to walk across the ward his bladder discharged itself three separate times, a little sudden trickle would course down his leg and then as suddenly stop. What I believe is happening is that he is gradually recovering control of his external sphincter, a control hitherto in some way deranged by the myelitis, while the bladder reflex proper was never involved at all.

Case of Alcoholic Neuritis.—This was an interesting case as, besides being the most distressing case of alcoholic neuritis I had ever seen, it presented some features that were new to me in multiple neuritis. A young woman, about thirty-five, was sent to the Meath Hospital from Dr. Wright of Dalkey. Besides complete extensor paralysis with double dropped foot and dropped wrist, she had a huge bed-sore over her sacrum, incontinence of urine, oculomotor paralysis with ptosis of the right lid, right abducent paralysis, and marked nystagmus. With anæsthesia to light touch, she had extreme hyperalgesia.

After some weeks in hospital the incontinence stopped, and the bed-sore healed, but she developed contractures—with marked wasting—and she left hospital a hopeless

cripple.

Two cases of hemiplegia, one still in hospital, have or have had incontinence. The first, a young man, under Sir John Moore's care, had a right hemiplegia, with motor aphasia. Though perfectly conscious and clear in his head, the incontinence persisted for days after he had recovered the power of speech. The other case is a woman of sixty-four years of age who came into hospital in December last with a left hemiplegia and a left hemianasthesia, which at first was as nearly complete as it can be. She had, of course, homonymous hemianopsia and a quite insensitive left cornea. Though insensitive to touch, pin-pricks, heat (my clinical clerk raised a blister on her hand with a lighted cigarette), and cold, she complained of agonising pain in her left side (thalamic pain?), although there has never been any arthritis or other obvious cause to account for it. She had also a persistent conjugate deviation of the head and eves to the right which lasted until about a month ago.

In the two cases of tabes the disordered function showed itself in two different ways. Both are cases of old standing, the disease being itself apparently stationary. But in one the man experiences distress if the bladder is not emptied at least every three hours. He has considerable difficulty in emptying his bladder in the erect position, and when in bed cannot empty it at all. The other case, after passing through a period during which the bladder discharged its contents whenever he laughed, coughed, or sneezed, has now such difficulty in evacuating it that he retains it for a whole day until the bladder is ballooned up to his umbilicus, and although the urine is alkaline and full of pus he does not experience the least distress. This patient has to be turned out of bed and made to empty his bladder when it is over-distended, which he does largely by manual expression.

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I mention these cases because Purves Stewart says that the difficulty experienced by the tabetic is mainly, if not entirely, due to anæsthesia of the mucous membrane of the bladder; and the first of these cases is certainly not anæsthetic.

In the majority of tabetics, in the early stages, the difficulty seems to be due to inco-ordinate action or loss of control of the external apparatus, the visceral reflex itself remaining intact. Hence we have the slowly-working, 'stammering,' and intermittently incontinent bladder—the urethral mucous membrane, perhaps, anæsthetic; or the external sphincter off its guard from loss of tone. In other cases the visceral reflex is itself out of order, the detrusor paralysed, and the sphincter closed. That the detrusor really is paralysed can be readily appreciated by the passage of a catheter when the large cavity can be probed while the air whistles in and out with every movement of respiration.

I admit that the tabetic condition is a crux, but there is probably a great deal more in tabes than a mere group of phenomena depending on certain well-defined lesions. just as there is a great deal more in the condition called aphasia than the mere inability to speak or understand articulate language. The disordered bladder function in nervous disease presents a varied and puzzling picture, not to be explained off-hand, and it cannot be worked out on the simple hypothesis usually taught. I am indebted to Professor Francis Dixon for an interesting side-light on the suggestion of a pelvic peripheral reflex centre. He points out that recent embryological work shows the bladder, rectum, colon, cacum, and lower ileum to have a common origin, and, though this is not proved, they might easily have a similar nervous mechanism, while the presence of enormous numbers of nerve cells in the pelvic plexus makes such an arrangement, at any rate, possible.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Archives of the Middlesex Hospital. Clinical Series.

No. XIII. (Being the thirty-first volume of the Archives.) Edited by W. Sampson Handley and Victor Bonney. London: Macmillan & Co., Ltd. December, 1913.

THE present number of the Archives of the Middlesex Hospital contains six clinical papers, all of which are of practical value. The first of these is that of Messrs. Berkeley and Bonney on the radical extirpation of cervical carcinoma, in which they had a mortality of 22.5 per cent.; although of the seventy-one cases operated on five deaths may fairly be ascribed to causes other than operative. Mr. A. E. Johnson contributes an article on simulation of appendicitis by disease of the urinary tract, in which he refers to Dr. W. Hale White's clinical address— "The Importance of Examining the Urine Bacteriologically "-in which Dr. W. H. White related his well known case of B. coli infection of the right urinary tract. Mr. Johnson reports an instructive case of his, in which the Bacillus enteritidis of Gärtner in the urine gave rise to symptoms very similar to those of appendicitis. The appendix was removed and found to be normal. chronic case with symptoms simulating gall-bladder trouble is illustrated with two micro-photographic plates. which are very poor, very perplexing, and demonstrate nothing. The article is a valuable contribution to the signs and symptoms of appendicitis, and we fully endorse the author's conclusions :- "Appendicitis and other intestinal conditions may be accompanied by such urinary symptoms as to make it very difficult to arrive at a correct diagnosis, and lastly, that there may be disease in

both tracts, in which case the urinary condition is likely to be secondary to the intestinal lesion." Mr. Somerville Hastings' paper on mastoid cases will be interesting reading to aural surgeons, and is a wholesome admonition to all physicians of the great significance of what are too often considered trivial ear troubles. Mr. C. H. S. Webb's contribution deals with the subject of renal efficiency. In addition to the well known tests for abnormal constituents in the urine, he pleads for evidence of renal efficiency: he would know the osmotic pressure of the urine; the power of the viscus to separate abnormal substances from the blood-iodide of potassium and so forth; and its power to synthetise certain substances. such as urea. He reviews the different tests known in urinology, and finally decides in favour of phloridzin; which, even in his hands, gives anything but trustworthy results—results obtained by a great sacrifice of time and much personal inconvenience by the surgeon. Moreover, the malic glucoside is not of the innocuous nature Mr. Webb appears to think it is. Although it is little more than a chemical curiosity, it has been discontinued in the treatment of intermittent fevers, and is reported as having caused diabetes mellitus, and as producing fatty infiltration. These unpleasant effects were noted in 1890 by Moritz and Prawitz (Zeit. Biol.), and in 1895 by Bocquillon-Limousin (Méd. Nouv., 1895), who states 5 décigrammes per kilom. gramme produces this effect in healthy animals. Withal Mr. C. H. S. Webb has done good work by drawing attention to the fact that the positive sign of synthesis is the only trustworthy sign of a functional healthy kidney. Gonococcal urethritis is the title of Mr. A. Clifford Morson's paper, in which he deals with the bacteriology and treatment of the disease. He supports the theory that the staphylococcal invasion of tissues following gonorrhea is that of arthritis, and that its treatment consists in eliminating the staphylococcus. As casualty medical officer, Mr. E. W. Hall met with three cases of patent ductus arteriosus. and he reports them briefly and graphically. "In none of these cases was a systolic murmur heard over the

cardiac area, a sign which is described in text-books as being the typical sign of a patent ductus arteriosus." Mr. E. W. Hall's paper is of permanent value as a record of facts briefly and clearly told. The remainder of the number is taken up with the reports of the medical, surgical, and obstetric Registrars and that of the Pathologist, all of which are of value for reference and helpful to all who can utilise statistics as aids in practice.

We have given an unusual amount of space to the contents of this number of the Archives. Its many excellencies demanded more than a formal notice, and we desired that the publication might become more known to members of the medical profession who take an interest in the scientific progress of medicine.

Hospital of the Protestant Episcopal Church in Philadelphia: Medical and Surgical Reports of the Episcopal Hospital. Vol. I. Philadelphia: Wm. J. Dornan. 1913. Demy 8vo. Pp. 406.

WE welcome this the first medical report of Philadelphia's greatest hospital. It is a splendid addition to medical literature. In July, 1851, when this institution was founded. Philadelphia was dependent on the Pennsylvania and Philadelphia Hospitals for accommodation for its sick poor. Both hospitals were small, and dated back to old Colonial days. The want of further accommodation was generally recognised, and some gentlemen formed a committee to raise funds to provide hospital accommodation for the sick poor. But the initiation of the movement was due to Miss Ann Leamy and her sister, Mrs. Elizabeth H. L. Stout, who presented to the committee a block of land on which stood their family home. Twenty-three beds were installed in the Leamy Home, and from this small beginning came the great series of buildings which go to form the present hospital, which in 1912 admitted 4,433 patients, and 22,755 new patients at the out-door department. The emergency receiving ward treated 7,346 patients from the 1st of January, 1912, to the 31st of 352

December, 1912. And the number of visits made by old and new patients to the dispensaries during the year was 88,995. The alumni of the hospital contribute to the report thirty-two papers on subjects occurring in their hospital practice, some of which have already appeared in medical publications. Dr. H. Frazier gives an interesting review of one hundred and fifty operations. In one case, which was diagnosticated as a femoral hernia, a fibro-lipoma of the sartorius muscle was found. The treatment of tetanus by means of its specific antitoxin is the subject of Dr. E. E. W. Gwen's paper, in which he states that the antitoxin is able to combine only with the toxin that is free in the blood and lymph channels, it is therefore necessary to begin prophylactic treatment as soon as possible after the receipt of a traumatism suspected or known to carry tetanus infection. This paper is followed by one on the rational treatment of tetanus with a report of twenty-three cases by Drs. Ashhurst and John: it occupies some seventy pages and is a very practical and useful contribution to medicine. "The Clinical Significance of Extreme Degrees of High Blood Pressure, with Remarks on its Management," by Dr. Piersol, is a clinical study of high blood pressure in chronic nephritis, arterio-sclerosis, and in cases in which neither of these conditions is present. The symptom is one of great significance, which was unfortunately not sufficiently valued in the past. Dr. Tinkler gives some clinical pictures of some neuralgic cases of varied type. The cases are reported in a readable manner, and are so chosen that every medical practitioner may read them with advantage. A case of herpes zoster, complicated by Bell's palsy, is reported by Dr. H. E. Happel; and one of myopathy by Dr. R. S. Hooker. The treatment of fractures of the forearm without operation is the subject of Drs. Ashhurst and John's paper, in which they demonstrate that in a large number of cases they obtained good results without resort to operation. But these good results were got by special and elaborate apparatus and by continuous personal attention, and from the list of cases they exclude Colles's fracture, fractures of the elbow and wrist joint. Dr. J. C. Simpson contributes a paper on the treatment of both bones of the forearm by full supination; and Dr. E. G. Alexander gives a report of fifty-six cases of fracture of the patella, of which nineteen occurred in women. His treatment, as a rule, is suturing by chromic gut. Bone cysts are the subject of a short but interesting article by Dr. Mutschler. But space does not admit of even mention of the many other excellent papers that go to complete this the first report of the great hospital in which the beneficent liberality of the citizens of Philadelphia has made possible and available the most scientific and approved methods of therapeusis in its widest sense.

Anatomy: Descriptive and Applied. By Henry Gray, F.R.S. Eighteenth Edition. Edited by Robert Howden, M.A., D.Sc., M.B., C.M. London: Longmans, Green & Co. 1913. Large 8vo. Pp. xvi+1311.

THE present edition of Gray's Anatomy, Descriptive and Applied, edited by Robert Howden, Professor of Anatomy in the University of Durham, still continues to be a very, if not the most, popular text-book among students and practitioners.

The work has reached the eighteenth edition; this fact alone speaks for itself. Being edited by one man, there is in the book a most desirable continuity of purpose and a natural sequence of thought. and accordingly a great deal of unnecessary repetition is avoided.

The Basel Nomenclature has been adopted in its entirety, and without entering into the polemics of the relative merits of the old and new nomenclatures, we are convinced that the right step has been taken.

The paragraphs on Applied Anatomy at the ends of the various sections continue to maintain their high standard of accuracy, and of being up to date.

The isolated paragraphs on Surface Anatomy and Surface Markings have certainly gained by having been

brought together into one chapter at the end of the work. This has greatly enhanced the value of this particular section of anatomy.

The book is copiously and beautifully illustrated; very wisely, largely by means of diagrams rather than by literal reproductions of dissections.

E. J. E.

Cunningham's Manual of Practical Anatomy. Revised and edited by Arthur Robinson. Sixth Edition. Vol. I. Edinburgh, Glasgow and London: Henry Frowde and Hodder & Stoughton. 1914. Cr. 8vo. Pp. xxx+673.

A CASUAL perusal of the sixth and latest edition of Cunningham's Manual of Practical Anatomy leads one to wonder why this edition should so soon have followed upon the heels of the fifth (1912), but upon closely comparing the two editions one recognises that the issue of a new edition is quite justified. For instance, on comparing the first paragraphs on pages 371 of the two editions, one sees that the sphincter vaginæ muscle of the earlier edition is the bulbo-cavernosus muscle of the later, this latter is in conformity with the requirements of the Basel Anatomical Nomenclature, which is used throughout the work.

Incidentally it is interesting to note in the paragraphs just referred to, that "comparable with" has become "comparable to."

In the new edition the New Nomenclature has been freely translated into English. The reviser has not attempted to supply an English equivalent for Panniculus Adiposus. The term will probably be adopted as an English word in its present form.

The manuals are beautifully and freely illustrated, several full-sized coloured plates have been introduced. The white leaders used in the coloured plates render it exceedingly easy to find the parts indicated.

A number of very fine radiographs has been placed at the end of the book, but their usefulness in a work to be used in the dissecting room is very questionable. The manuals are small and thick, and consequently it is sometimes difficult to retain them open at a given page when they are placed flat on the table.

To these few criticisms one may add that the manuals are very nearly perfect. They form most excellent guides in the art of dissection. The reviser and the publishers are to be heartily congratulated on the quality of their work.

E. J. E.

Medical and Surgical Reports of the Boston City Hospital. Sixteenth Series. Edited by George H. Monks, M.D.; G. Sears, M.D.; and F. B. Mallory, M.D. Boston: Published by the Trustees. 1913.

After a lapse of eight years the Reports of the Boston Hospital are resumed. As we understand, the report is not an annual volume, but appears from time to time as the material available seems to warrant it. Judged by this standard the present editors were fully warranted in issuing the present report, which, strictly speaking, is a volume of monographs contributed by former students of the hospital. Of these thirty-two monographs we can do little more than enumerate the subject of some of the more interesting and clinically instructive.

The use of opium in gangrene is dealt with by Dr. George W. Gay, a valuable reminder to the present generation of the value of Pott's monograph on the same subject which saw the light prior to the "Boston tea-party." Drs. Mallory and Hornor write on pertussis, which they consider is "due to a minute bacillus which occurs in large numbers between the cilia of the epithelial cells lining the trachea and bronchi, and possibly also the nose." The paper is profusely and beautifully illustrated by chromo-photomicrographs, and is of permanent and great value, one which opens to us the prospect of adopting a line of scientific treatment for a disease which for many generations has been the target for thousands of empiric remedies. "The Conservative Treatment of Toxemia of Pregnancy with Convulsions" is the title of Dr. Charles M.

Green's paper, in which he gives ten deeply interesting illustrative cases. It is, however, open to question whether the few cases detailed by the author are sufficient to justify a general rule of practice. "Cerebral complications in pneumonia "have occupied the attention of physicians from the days of Hippocrates, and Dr. C. F. Withington is one of the latest to swell the number of writers on the subject. And we may at once say that his paper is the product of one who has given much time and thought to the subject and is deeply read in its literature, and consequently it well repays reading. The use of pure radium bromide in superficial skin cancers by Drs. Williams and Ellesworth is one of those contributions to Medicine that mark scientific progress and it gives promise of further victories over pain, deformity and mutilation. A series of very fine photographs of successful cases adds greatly to the value of the paper. Drs. Young and Williams give a study of two thousand cases of miscarriage treated by intra-uterine douches, packing and antiseptics, in which they try to solve the following problems:-

(1) Is there any danger in the intra-uterine douche?

(2) Is the intra-uterine douche of any mechanical value after the products of conception have been removed?

(3) Is there any advantage in antiseptic douches over sterile water or salt solution?

(4) What is the value of swabbing the cavity of the uterus with tineture of iodine?

(5) Does packing the uterine cavity to control hæmorrhage increase liability to sepsis?

The authors give very satisfactory answers, and the grounds on which they base their conclusions are well worth studying.

Dr. A. M. Burgess reports a case of that exceedingly rare disease chloroma. He deals at some length with the theories of its pathology—lymphatic and myelogenous. As a record of this rare disease the contribution is valuable, and as such is properly included in the report. Of more general interest is Dr. F. B. Mallory's monograph "The Infectious Lesions of Blood Vessels," in which he deals

with "the immediate presence of pathogenic microorganisms of one kind or another." Fifteen microphotographs illustrating the different pathological conditions referred to in the letterpress are given; but, like most black and white micro-photograph reproductions, they are not very helpful. Drs. Binney and Lund report eighteen cases of separation of the lower femoral epiphysis at the Boston City Hospital, and very properly they ascribe their successful diagnosis of these cases to the Röntgen rays, and contrast the good results secured by modern methods to that obtained in the past. The paper is a very suggestive one and worthy of study by all those who are interested in legal cases arising out of the "Employers Liability Act." Drs. Coriat and Chandon place on record three cases of spinal cord lesion, in which early surgical intervention was productive of excellent results. Special indications for the use of spinal anæsthesia is a thoughtful contribution by Dr. F. L. Richardson, in which he carefully steers a middle course. He refuses to believe that spinal anæsthesia will be the anæsthesia of election in almost all cases, but he recognises that there are certain patients for whom it is less dangerous than any other method. He gives the clinical cases in which the spinal anæsthesia was successfully used in pathological conditions which prohibited all other known methods of anæsthesia.

We have written enough to show how highly we appreciate the Boston City Hospital Report for 1913, and we hope the trustees of the institution may see their way to enrich the medical profession with an annual volume of the same excellence of that before us.

Transactions of the British Proctological Society for the Year 1913. Edited by W. S. HANDLEY. London: H. K. Lewis. 1914. Cr. 4to. Pp. vii + 30.

This society was established in December, 1912. In July, 1913, the Society decided to accept the offer of the Royal Society of Medicine to constitute it a sub-section of the

Surgical Section of that Society. The proceedings of the sub-section of Proctology, as published in the Transactions of the Royal Society of Medicine, will therefore supply the continuity of the present volume, which contains an address by the President, Mr. F. Swinford Edwards, and also accounts of cases of interest, which were described, and some of them exhibited at the meetings. Nothing very new or of exceptional interest appears to have been brought before the Society during the year 1913.

Chronic Colitis: Its Causation, Diagnosis and Treatment. By George Herschell, M.D. Lond., Late Senior Physician to the Kensington General Hospital and the National Hospital for Diseases of the Heart: and Adolphe Abrahams, M.D. Cantab., Medical Registrar to the London Temperance Hospital. London, New York, Bombay and Calcutta: Longmans, Green & Co. 1914. Demy 8vo. Pp. ix +276.

WE have read this work with interest, but without feeling that it has added much to our store of information. It professes to deal with colitis, but, as far as we can judge, the authors themselves have not got very clear ideas as to what the term colitis means. In the elaborate section dealing with diagnosis, one finds oneself at one moment reading about the importance of tests for occult blood, and we learn that if the test continues to give a positive result in a case of duodenal ulcer the ulcer is not healed: later we read of various tests for gastro-intestinal intoxication as practised on the intestinal contents and on the urine. All this undoubtedly leads us to believe that the writers of the book are very thorough in their methods, but whether they regard occult blood or an altered surface tension of the urine as having anything to say to colitis we have been unable to determine. A similar want of definiteness is found in the otherwise excellent article on treatment. Numerous methods of treatment are described, but one fails to find a sufficient statement of the indications for the various methods. It certainly is not possible to carry out all the recommended measures in any individual case, and one would wish to know what measures have been found most useful by the authors out of the many they describe. The part of the article that deals with the preparation of food is most instructive, and is undoubtedly full of useful tips. The teaching of Combe of Lausanne seems to be pretty closely followed in the various dietaries that are advised.

With two statements in the book we are in thorough sympathy. One is that a patient suffering from chronic gastro-intestinal trouble must be plainly told that no diagnosis of his condition is possible without thorough and prolonged investigation. The other is that a fruitful source of chronic colitis is Spa treatment carried out at random.

Modern Problems of Biology. By C. S. Minot, Harvard Medical School, Boston. Philadelphia: Blakiston & Co. 1913. Pp. 124.

An excellent custom has grown up of late years of inviting the delivery of special courses of lectures by what are termed "Exchange Professors" between one university and another.

In this way, after Professor Eucken, of Jena, had been called to lecture in Harvard University, Dr. Minot was honoured by invitations to lecture in Berlin and Jena. The present small volume represents six lectures delivered at the University of Jena, in December, 1912.

The headings of the lectures are as follows:—The New Cell Doctrine; Cytomorphosis; the Doctrine of Immortality; the Development of Death; the Determination of Sex; the Notion of Life.

This will suffice to show the interesting nature of the problems discussed. The extent of ground mapped out is perhaps rather large for the compass of a few lectures, which, moreover, purposely deal chiefly with American investigations.

One of the most curious subjects touched upon is polyembryony—i.e., the development of several individuals from a single egg. This strange phenomenon has been recognised for some time past in invertebrates (certain earthworms), and has more recently been observed in mammals (armadillo).

The final conclusion at which Dr. Minot arrives is this:—"Life is bound to matter. Vital phenomena are alterations of the living substance which we describe by saying that they are transformations of energy. But there always remains the possibility that consciousness cannot be explained mechanistically, that it is neither a condition of protoplasm nor a special form of energy, but something of its own kind, not comparable with anything else that we know, and that it reveals itself by causing transformations of energy." Surely this is only a roundabout way of saying "ignoramus."

A Treatise on Materia Medica and Therapeutics. By RAKHALDAS GHOSH. Edited by LIEUT.-COLONEL B. H. DEARE. Fifth Edition. 1913. Calcutta: Hilton & Co. Pp. 742.

Dr. Rakhaldas Ghosh, the author of the book under review, unfortunately died before he could see the first edition (1902) through the Press.

Subsequent revisions have been carried on by various hands, and this fifth edition has been carefully brought up to date by Lieut.-Colonel Deare. assisted by Dr. B. Ghosh, son of the late author.

The work is well printed, clearly arranged, and gives a wonderfully complete survey of the whole field of Materia Medica and Therapeutics in a condensed but lucid fashion.

To most students Materia Medica is not an attractive subject, yet it must be learnt, and the primary aim of the book was to minimise the labour of the student, and to present the subject in as attractive a manner as possible.

One thing is certain that whoever will set himself to "make up" the 700 pages of this manual will find more

than enough pabulum to satiate the appetite for know-ledge of the most indefatigable student.

The contents are distributed under these heads:—
(1) Materia Medica proper: (2) Pharmacy and Dispensing;

(3) Administration of Drugs; (4) Pharmacology and Therapeutics; (5) Materia Medica and Therapeutics—the bulk of the work, viz., over 500 pages, an alphabetical description of all the official (B. P.) drugs, as well as many Indian and non-official drugs; (6) Serum Therapeutics; (7) Organo-therapy.

For Indian students Dr. Ghosh's book may unhesitatingly be recommended as the very best one they can procure. The vernacular Indian synonyms are supplied

for all the B. P. drugs.

For British students we may say there is no other book which condenses, in an agreeable form, so much and so varied information, and we can recommend it as a thoroughly reliable and useful text-book.

Practical Prescribing, with Clinical Notes. By Arthur H. PRICHARD, M.R.C.S., R.N. (retired). London: Oxford University Press. 1913. Cr. 8vo. Pp. x + 307.

This is a somewhat curious and novel style of work. The author's plan is this. He supplies a number of prescriptions, and explains briefly the reasons for employing the various drugs, with any special points concerning them. In order more fully to illustrate the effects of drugs in combination a number of illustrative cases are epitomised. The objects of treatment in these cases are indicated in short notes, while the main features of each case are briefly summed up by way of comment.

No classification or strict order is observed, and many important and common affections are unnoticed. The book opens abruptly with the discussion of a case of acute gout, and ends with a case of migraine.

The prescriptions and the notes on treatment are arranged side by side in parallel columns, and some three dozen diseases are singled out for comment, without any

obvious reasons for selection. Thus, of infective diseases, only influenza and measles are chosen, and for the latter affection no fewer than nine prescriptions are introduced.

In the hope of familiarising students with prescribing for infants and young children, several cases of disorders common in early childhood are included—e.g., gastric catarrh, habit vomiting, and convulsions.

A feature which we cannot commend is the introduction in several cases of preparations and formulæ derived from the British Pharmaceutical Codex, a bulky volume which no student is likely to possess.

Materia Medica: Pharmacology: Therapeutics: Prescription Writing for Students and Practitioners. By W. A. Bastedo, M.D. W. B. Saunders Co. 1913. Pp. 602. This book is based, for the most part, upon lectures delivered by the author at Columbia University. It claims to be essentially practical in aim, even to the exclusion of some matters of great interest in pharmacology. At p. 61 the question is propounded—"How much shall we learn about drugs?" But in relation to a tome of 600 large octavo pages, may not the unfortunate student be tempted to ask—How much may I not learn?

The general text calls for no special comment, and contains little or nothing that is not equally well told in many other text-books.

The digitalis question and alcohol are very fully discussed, the information given is accurate and reliable, and the book can safely be recommended.

Alimentary Toxamia: its Sources, Consequences and Treatment. Report of a Discussion held at the Royal Society of Medicine in 1913. Longmans, Green & Co. 1913. Pp. 380.

This imposing quarto embodies the important discussion upon alimentary toxamia which took place at the Royal Society of Medicine last year. The opening papers were read by Drs. Hale White, F. Andrewes, Vaughan Harley, R. Saundby, Sir A. Lane, and Mr. Colyer, dentist.

It is impossible to summarise or epitomise the results of the discussion in a few words. The book may simply be commended to the attention of our readers as an authoritative exposition of the views of leading physicians and surgeons upon a subject of the highest importance, and one which appeals to every one.

The Nature of Enzyme Action. By W. M. BAYLISS, F.R.S. Third Edition. 1914. Pp. 180.

THE first edition of this admirable monograph was favourably noticed in this journal, and we have now the satisfaction to chronicle the appearance of the third edition, which is exactly double the size of the first.

The book is certainly the best account which has yet been published of a subject which lies at the root of most biochemical problems. It is indispensable to physiologists and to all physicians who take an intelligent interest in their profession.

There is no essential alteration in plan or arrangement, except that convenient headings in heavy type mark out the important paragraphs and sections. The volume is thoroughly up-to-date and will enhance the high reputation of its distinguished author.

Radium Therapeutics. By N. S. Finzi, M.B. (Lond.). Oxford University Press. 1913. Pp. 112.

Dr. Finzi is chief assistant in the x-ray department, St. Bartholomew's Hospital, and he has done well in placing before the profession a brief and clear account of the active uses of radium and its rays.

In the present limited state of our knowledge of the physical and, more especially, of the therapeutic properties of radium any monograph on its use must needs be of a provisional and largely empirical character.

After a brief physical introduction, which is scarcely full enough to satisfy the beginner, the internal administra-

tion of radium is discussed. Subsequent chapters deal with the physiological and pathological action of radium radiations, apparatus and methods of application, treatment of superficial and internal diseases, and, in an appendix, brief reference is made to radio-active substances other than radium—viz., uranium and thorium.

One of the most important and practical points brought out is this, that every tissue reacts to radium in its own specific way—e.g., gland cells may be destroyed by a dose which does not harm cells of connective tissue or the skin. Lymphatic glands are very sensitive to radium, also the endothelium of blood vessels.

In the after-management of an area of skin which has been treated by radium it is laid down that on no account should any ointments be used, as they may convert an erythema into an ulcer. A simple powder of zinc oxide and starch only should be used.

Alimentary Enzymes, with Special Reference to their Use in Treatment and Dietetics. Benger's Food, Ltd. Otter Works, Manchester. 1912. Demy 8vo. Pp. xiii 108 + iv.

More than thirty years ago, the late Sir William Roberts, of Manchester, did pioneer work in the scientific investigation of dietetics and digestive ferments, and he was assisted in the practical work of his researches by the late Mr. Baden Benger, who was a skilled chemist.

Since that time the Benger firm have, as is well known, devoted much attention to the preparation of reliable products of digestive enzymes, and the present volume brings before us the various preparations which have been elaborated by the firm.

The first chapter is a readable and accurate account of the physiology of digestion. The bulk of the book is naturally occupied by descriptions of the products prepared by the firm, enriched by valuable practical directions, and (hapter VIII., on the feeding of infants, gives several useful formulæ for the use of Benger's Food for young children. Benger's Liquor Pepticus has deservedly obtained a wide reputation, and it is expressly pointed out that it should never be prescribed along with alkaline substances or with Liquor Pancreaticus.

Appended are a series of excellent photographic plates which admirably illustrate the phenomena attendant upon the pre-digestion of milk with and without the addition of Benger's Food.

The Year-Book of the Scientific and Learned Societies of Great Britain and Ireland: A Record of the Work done in Science, Literature and Art during the Session 1912–1913 by numerous Societies and Government Institutions. Compiled from Official Sources. Thirtieth Annual issue. London: Charles Griffin & Co., Ltd. 1913. Demy 8vo. Pp. viii + 380.

This useful year-book has reached its thirtieth year of issue, and has become more and more useful. Readers find in its pages a concise review of the various scientific and learned societies of Great Britain and Ireland. Section XIV: Medicine occupies some sixty pages; and as a record of the present condition of Medicine as a science and an art, and of its progress, it is a very valuable and trustworthy guide. The information, in the great majority of cases, is contributed by the societies, and the full title with the date on which the paper was read is given. We need do no more than mention the fact to show how valuable to the student the Year-Book is as a trustworthy reference.

The Students' Pocket Prescriber and Guide to Prescription Writing. By H. Aubrey Husband, M.B., C.M., B.Sc., F.R.C.S.E., M.R.C.S. Fourth Edition, revised and enlarged. Edinburgh: E. and S. Livingstone. 1914. 32mo. Pp. 152.

This booklet is indeed a "multum in parvo," and its size justifies its title of "Pocket Prescriber"—it would easily

fit into its owner's waistcoat-pocket. As the present edition is described as "enlarged," one wonders at the microscopic dimensions of previous editions which such a statement implies.

We have glanced through the one hundred and fiftytwo pages which make up this dainty little 32mo volume, and are glad to find that their contents are reliable. Apart from nearly 500 prescriptions, there is an instructive introduction in which the form of a prescription is analysed, its objects are explained, and the points to be borne in mind when prescribing medicines for the sick are discussed.

An appendix includes weights and measures, a note on incompatibilities, a list of Latin numerals commonly used in prescriptions, a table of quantities ("Pondera et Mensure"), a very full vocabulary of Latin words and phrases commonly used, and the abbreviations usually employed in prescriptions. There is a copious index at the end.

Very few slips were detected—"pepsinæ" for "pepsini" (page 19), "salini" for "salariæ" (page 49). "Vaselini" and "antipyrini" should be "paraffini mollis" and "phenazoni," respectively.

This manual is intended primarily for the needs of the medical service of the United States Army. The author expresses a hope that it may also be found useful by "that increasingly large number of physicians and surgeons who find it necessary and expedient to do their own x-ray work for diagnosis." We are not familiar with the conditions in the United States, but in this country we imagine this to be a small and decreasing class. There is nothing particularly new in this book; on the whole it

A Manual of X-ray Technic. By ARTHUR C. CHRISTIE, Captain Medical Corps U.S. Army; Instructor in Radiology and Operative Surgery Army Medical School, Washington, D.C. With 42 Illustrations. Philadelphia and London: J. B. Lippincott Company. No date. Demy 8vo. Pp. viii+104.

runs on much the same lines as all too many others. In the description of apparatus the "interrupterless" machine is described fairly fully with a good diagram.

On the whole we are not favourably impressed with the illustrations. If Fig. (1), a large diagram of a galvanic cell, is necessary, surely the description of the Mackenzie Davidson localiser would be clearer with a figure. It is stated in the preface that "only a few reproductions of diagrams are published, as illustrations to the text, because it is believed that ability to interpret radiograms can be gained only by experience with the originals." The reproductions are all of bismuth in the alimentary canal. Surely the author's statement applies with equal or even greater force to this form of radiogram as to any other. With Fig. 22, showing the position for the radiography of the frontal sinuses, we are not in agreement, much preferring the position given by Bythel and Barclay.

The book has two admirable virtues—it is accurate and it is concise. We fear it would be rather difficult to the novice, in its brevity, and its lack, here and there, of explanatory diagram. Those with some experience will prefer to consult the larger text-books. We doubt the demand for such a book in this country, though a need for it may well exist in the different conditions of another continent. So far as it goes it can be trusted. It is obviously written by one who knows what he is talking about.

The Sensory and Motor Disorders of the Heart: their Nature and Treatment. By Alexander Morison, M.D., F.R.C.P. London: Baillière, Tindall & Cox. 1914, Demy 8vo. Pp. viii + 261.

The great impetus given to the study of cardiology by recent discoveries in clinical methods of examination has given rise to a corresponding flood of literature of the subject. The work before us, however, must be placed in a somewhat different category, inasmuch as it represents to a large extent the personal experience of its author

during thirty years of practice, but mainly because it departs in important respects from the views and methods now in vogue.

The book is divided into three parts—the first dealing with the nature of cardiac action, the second with sensory disorders, and the third with disorders of cardiac motion. Much divergence from generally accepted theories will be found. In the author's own words, "the views expressed . . . will probably be considered too mechanical by some, and the share he ascribes to the nervous system, in its relation both to cardiac sensibility and motion, greater than the data at present acknowledged by physiologists warrant."

For our own part we must confess that the account given of the structure and function of the nodal system has not thrown much light on the subject, and this is the part of the book which least appeals to us. The reason may be that an extensive acquaintance with current literature has embarrassed the author in his honest attempt to discover the truth, but a somewhat involved style of diction in parts may have a share in obscuring his meaning. For example, in reference to the auriculo-ventricular node we find the following statement:—"As a nodulation of fully developed cardiac auricular muscle is a less probable process than a progressive development of nodal texture into ordinary muscle, the junction of this node, if its embedment in auricle be regarded as such, is more probably made by the nodal structure with the auricle than by the auricle with it." The sense is not immediately evident! In a difficult scientific treatise it is also irritating to find fresh arterial blood described as "newly oxygenated vitalising fluid."

The clinical part of the work we found much the more interesting, embodying as it does the results of the author's long and minute observation. Here the theories and facts of angina pectoris are very fully discussed, with a new and plausible suggestion founded on evidence obtained from a typical case.

The section dealing with motor disorders presents

probably the widest departure from recent teaching. This is emphasised by a new classification and nomenclature. For instance, auricular fibrillation which is designated by the appalling term "arhythmic tachycardial ventricular extrasystolia" is suggested to be due to ventricular disturbance. On the other hand, Mackenzie's former theory of "nodal rhythm" is treated with greater respect than its own author has recently accorded to it.

While the work is not likely to appeal to the average reader, it contains evidence of an immense amount of reading, observation, and reflection, and as a contribution to the serious investigation of cardiac disease it is certain to be welcomed.

Radium: its Physics and Therapeutics. By DAWSON TURNER, B.A., M.D., F.R.C.P. Edin., M.R.C.P. Lond., F.R.S. Edin.; Lecturer on Medical Physics, Surgeons' Hall, Edinburgh; Additional Examiner in Medical Physics to the Edinburgh University, and to the Royal College of Physicians of Edinburgh: Medical Officer in Charge of the Radium Treatment of the Royal Infirmary, Edinburgh. Second Edition, revised and enlarged. London: Baillière, Tindall & Cox. 1914. Cr. 8vo. Pp. xiv+170.

The physics of radium, especially that part which deals with its disintegration, are so novel, and so revolutionary to our heretofore rigid conceptions of elemental matter, that while the greatest physicists are engrossed in the study of this rare metal, even the uneducated have heard something of its wonders. Radium therapeutics, too, have of late come prominently before the profession and laity, and, though no doubt in some quarters overestimated as a cure-all, none can doubt that in radium we have a novel and powerful therapeutic agent deserving the fullest investigation.

For these reasons Dr. Dawson Turner's concise and

simple book will appeal to many.

Commencing with a brief account of the discovery of radium, and of its different radiations, emanation and transmutability, Dr. Turner goes on to explain the methods of measuring its strength, and how to apply it and measure the dose. The production and use of the emanation are next dealt with, and its tissue effects. The remainder of the book is devoted to an account of the use of radium in various diseases.

The book is written throughout in a clear style, and in the latter portion the author gives numerous instances of cases in his own experience, besides quoting extensively from the experience of others. While there is a general similarity in the diseases benefited by radium and those benefited by Röntgen rays, Dr Turner has had successful results with radium in certain cases where x-rays had failed.

In the second edition of this book there is a new chapter on the emanation of radium and on the thorium compounds. The section devoted to the effects of radium on malignant disease has been considerably expanded, and reference is made to this new mode of treatment by radium in Graves's disease.

Many, besides the fortunate possessors of radium, will find this short volume full of interest and instruction.

Sexual Ethics: A Study of Borderland Questions. By ROBERT MICHELS, Professor of Political Economy and Statistics at the University of Basle, and Honorary Professor in the Faculty of Law at the University of Turin. London and Telling-on-Tyne. New York, and Melbourne: The Walter Scott Publishing Co., Ltd. 1914.

The problem of sexuality—its rights and duties; its pleasures, pains and penalties; its perennial persistence, and its protean permutations of form and feature; its cosmic sympathies, and its individual antipathies; its continuous familiarity, and its ever-changing phases of presentation—is apparently one of the fated heirlooms of humanity of which the predestined presence would seem to be more reliably secured than is even that of the proverbial poverty of the chosen section of the species, or of a certain portion thereof. The veiled position to which the physically weaker, and naturally handicapped

(although not invariably "gentler," as has been so continuously suggested and re-iterated), feminine moiety of the sphinx-like genus of Homo sapiens, has undergone an inevitably radical series of modifications-absolute and relative—in being brought into line with the other circumferential sections of the expanding wave-front of our democratic civilisation (with its attempted collateral promotion of a procrustean standard measurement of all the constituent human units of the same). The genesis of bigeminal sexuality has always furnished food for theoretical contemplation, and material for philosophical curiosity, if not exactly for promisingly progressive investigation and solution. It is an inevitable characteristic of this iconoclastic age that the discussion of sexual ethics, which was formerly under the more immediate control of the theological expert, and secondarily of the civil legislator, should at last be laid open to the amateur expert of the New Morality, and even to the tub-thumping herald of the coming millenium of sexual communion and moral anarchy. Signs and warning commotions of germane quality have always preceded, and accompanied-with progressively increasing loudness of reverberation and velocity of expansive progress, the dissolution of every great civilisation and the wreck of every great empire. They have always constituted the threatening rumbles which proved-with the knowledge and experience that are so prone to arrive too late for utilisation of their products—to be the mysteriously prophetic, but sadly ineffective, versions of the writing on the wall; which has been, time and again, flashed and re-echoed to the eyes and ears of those who will not, or cannot, see or hear!

The author of the present volume has evidently brought the zealous endeavour of a sane enthusiast to bear on the investigation of the multiplex, and still entangled, subject of sexual ethics—with the original genesis and subsequent growth and evolution of the labyrinthine domain and pathways thereof. He has very obviously spared no pains in familiarising himself with all the available data of the extant annals of the question in the past, the exact nature and relations of its present position, and the

optimistic hopes and pessimistic fears of the philosopher, the philanthropist, and the politician in connection with its future, who are all necessarily interested in the solution of what is, upon the whole, the most cosmopolitan of human problems—and that which will, most assuredly, have the most impressive influence on the intellectual, and moral, and physical development of the whole "Coming Race." So obviously is this the case that the position now existing is being laboriously investigated and "worked for what it is worth" by leading representatives of each of the three great classes just referred to: by the philosopher, in the hope of attaining its connections, and with the help of its central clue to the focal well-spring of human nature at the bottom of whose turbid contents the gem of TRUTH has hitherto remained so modestly and successfully concealed; by the (true) philanthropist who thinks, as we are ourselves disposed to believe, that it is along those lines that the most effective means can-or could-be applied for the betterment of the material conditions of the existing species; and by the politician who should utilise the present conditions of inquiry and unrest for application of the best ways and means of improving the defective or oppressive environment which is really accountable for the genesis of the same—instead of fomenting and manipulating them for the purposes of professional "votecatching," and of fortifying the parliamentary position of himself and his party; which is perhaps as vilely mischievous, if not so physically and emotionally repulsive, a form of masculine prostitution, as that which pervaded the worst purlieus of the "Cities of the Plain."

The present work certainly deserves every attention from the medical section of our present civilisation. All must admit that the questions here formulated—in very plain, but thoroughly cultured, diction and phraseology—must be dealt with without much delay; although their open discussion forms by no means very pleasant reading for those of us who still incline to the view that the emotional side of human nature is the only facet that can really be made to reflect the anthropomorphism of the Divinity.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Walter G. Smith, M.D., F.R.C.P.I. General Secretary—J. A. Scott, M.D., F.R.C.S.I.

SECTION OF SURGERY.

President—R. D. Purefoy, Pres. R.C.S.I. Sectional Secretary—C. A. Ball, M.D., F.R.C.S.I.

Friday, February 20, 1914.

THE PRESIDENT in the Chair.

Cases illustrating Lorenz' Treatment for Congenital Dislocation of the Hip.

DR. WALTER C. STEVENSON exhibited two cases illustrating Lorenz' treatment for congenital dislocation of the hip. The first case was one of single dislocation of the right hip which was reduced eleven months ago. The child had four plasters altogether, the last of which was put on only three weeks ago and the limb was not free to move until about a week ago.

The second case was one of double congenital dislocation in which both hips were reduced eighteen months ago, and were still in plaster. The child was allowed up each day after the first three weeks.

Mr. W. S. Haughton also exhibited four cases illustrating Lorenz' treatment for congenital dislocation of the hip. Before showing the cases Mr. Haughton described the five different stages of Lorenz' treatment. The first stage was of about a month's duration, and consisted in manipulation and massage of the joint with increasing vigour. He pointed out that if this preliminary treatment was neglected difficulties would present themselves at later stages. The second stage was the so-called bloodless operation for reducing the dislocation.

The third was a passive stage, in which the limb was

wrapped in plaster to maintain the position. The plaster was usually left on for about three months unless the child smashed it, when it had to be replaced. The fourth stage was one in which the child was encouraged to do everything to assist the mobility of the joint, but in this stage also the plaster was kept on. In the fifth stage the patient was liberated from the plaster, and it would be noted that a most disappointing limp was usually present. This limp was attributed to the plaster habit produced by the abduction of the limb while in the plaster of Paris, but this habit can be overcome by manipulation, massage, and instruction, which rests with the parents. The treatment usually takes from twelve to fifteen months to complete, and from eighteen to twenty-four months is the ideal age to commence treatment. In children over five years the difficulties increase enormously.

In the first case shown the child was five years old, and the treatment was completed two years ago, so that it was apparent that the benefit was permanent. The plaster was removed fourteen months after the treatment was instituted.

The second case was that of a girl aged four years when the treatment started. The operation was performed in May, 1912, having been preceded by five or six weeks' manipulation and massage—the difficulty of reduction being greatly decreased by this treatment. The plaster was changed as required, and the limb was brought down in easy stages. Owing to the contraction of measles there was a delay of two or three months. In November, 1912, she was mounted upon a stool, and the last plaster was put on twelve months after the treatment commenced. It was pointed out that the child turned out the left foot occasionally, but it was considered that this slight deformity would disappear with further instruction. X-ray photographs were shown demonstrating the formation of the acetabulum at various stages during the treatment.

The third case was one of double congenital dislocation. The child was five years old when treatment commenced. Lorenz' operation was performed in November, 1911, after which the patient had an attack of acute gastritis and measles which retarded her progress. The second plaster was put on in October, 1912, and the third in May, 1913. The child was put on the stool in October, 1913.

The fourth case was one of single dislocation. It was interesting inasmuch as the age of the patient was eight years when the treatment was started. The operation was done on

the 1st of February, 1913, and the child was put on the stool in January, 1914. It was mentioned that the progress in this case was much retarded owing to nervousness on the part of the patient.

THE PRESIDENT congratulated Mr. Stevenson and Mr. Haughton on the results obtained. He would like to know what powers of locomotion these patients possessed before treatment.

MR. WHEELER said he was much impressed by the excellence of the results, especially as he had recently seen a patient, aged twenty-five, who had not been treated for double congenital dislocation, and her condition was a most deplorable one. He suggested that when these cases were shown on a future occasion it would be of much interest if the girl referred to above was also present. With the object of reducing the time necessary in these cases of congenital dislocation of the hip he had recently performed an operation which consisted in transplanting a portion of bone so as to form a new brim to the acetabulum, but this case had only been treated about a fortnight ago, so that it was yet too soon to form any opinion as to the result. He suggested that in the application of the plaster of Paris in these cases it might be useful if one part of dextrine were mixed with the plaster to prevent cracking.

Mr. Stevenson, replying, said with regard to the time in hospital it was not necessary to keep the patient in hospital during the whole time of treatment, provided they did not live in the country, and could be kept under observation from time to time. Before the treatment was commenced his patients could run about in an awkward fashion, but as they grew older they became worse. Sometimes in the case of adults they become unable to walk at all.

Mr. Haughton, replying, said with regard to the locomotion in these children their progression was fairly strong, but the waddle was awful to look upon. He had seen a couple of adults who suffered from congenital dislocation, but it was impossible to do anything for them.

Case of Ectopia Vesicæ after Operation.

Mr. D. Kennedy exhibited a case of ectopia vesicæ after operation. This patient was shown twelve months ago. In describing the operation he said, as far as he knew, the exact operation had not been carried out before. It consisted

in opening the abdominal cavity above the rudimental bladder. This facilitated the freeing of the rudimentary bladder off the abdominal wall. Having freed the bladder, the ureters and bladder were lifted out of the cavity altogether. A long incision was then made in the rectum. and into the cavity was dropped all the bladder wall that was present. This being done, a fixation suture was inserted between the bladder wall and the rectum. The remaining steps of the operation consisted in suturing the rectum, leaving an opening for the passage of the ureters. At the time of operation the child was less than four years old, and at this age no plastic operation could be attempted on the abdominal wall, and, as a result, the child developed a ven-There was no ascending infection, which was tral hernia. sometimes met with in this operation. As to the child's capacity to hold urine, at present there seemed a slight leakage from the rectum from time to time, but at intervals of from two to three hours the child passed water in considerable quantities. He would hope that in time this leakage would altogether disappear. If he were again called upon to perform this operation the only alteration he would be inclined to make was to transplant the bladder wall in the sigmoid. During the operation, to save the ureters from injury. he passed a probe through each ureter, and left it there until he was practically finished.

The President said the condition for which the operation was performed is a very distressing one, and he congratulated Mr. Kennedy on the results already obtained.

Mr. C. A. Ball said he was much interested in the case, as he had shown a boy five years ago upon whom he had operated for this condition by Peter's extra-peritoneal operation. This operation had the advantage that there was no risk of infection of the peritoneum. He did not know if it could be performed on the female, but it was a quicker operation, and the result in his case was satisfactory. The boy had always control except in the morning, when the bowels are inclined to move, but for the remainder of the day the child was quite comfortable. An interesting question arose in connection with these cases—i.e., what effect the urine has on setting up cancer in the rectum. The reason that gave rise to this point was that in his case after two years the patient was bleeding badly from the rectum and several little adenomatous growths were to be seen, and one

was inclined to fear that such might subsequently become malignant.

Mr. Gunn said these cases were much more difficult than they appeared. The method adopted was very interesting, but he suggested that if a rectal examination was made it would probably be found that there was no bladder left. He had experience of such a case, and it appeared to him that the bladder blood supply was cut off. He did not consider that there was very great risk of ascending infection.

Mr. Blayney said as regards the disposition of the mucous membrane of the bladder he understood Mr. Kennedy to say that he pushed it backwards, so that the mucous membrane would be looking directly backwards towards the pelvis. As regards the implantation of the ureters into the sigmoid flexure, it had been shown that, if the ureters are implanted high up, urine poisoning was likely to arise, but when implanted low down this could be prevented. He considered it safer to confine the implantation to the lower end of the rectum.

MR. WHEELER doubted if there was any real risk of infection from implantation. He said that the procedure adopted in this type of case seemed more or less settled.

MR. KENNEDY, replying, said that the literature on the subject, so far as ascending infection was concerned, was hopeless, and from that point of view alone one would despair of being able to do any good in these cases. He joined issue with Mr. Wheeler as to the mode of procedure being settled that is, transplanting the ureter into the rectum. He was under the impression that this practice had been discarded. The best results have been published of cases where the trigone had been transplanted. The transplantation of the ureters alone seemed to have been a complete failure, and looking at it from an anatomical and physiological point of view the transplantation of the ureters alone does not seem to hold out as good a hope. With regard to Mr. Gunn's point, the bladder was left practically as it was, so that any blood supply it had originally was retained. He would, however, make a rectal examination as suggested. The bladder was dropped into the rectum in the same position as it was originally, and was not rotated in the least.

A Case of Tertiary Ulceration treated by "606."

Mr. H. Moore exhibited a case of tertiary ulceration of the face treated by "606." The principal interest in this case was the nose, which had been grafted by Dr. Graham. As far as he knew the case was not one of tertiary syphilis. It was either congenital or the result of infection when the patient was young. The history was that the infection commenced in the throat and spread to the face, and the case more resembled tubercular disease. The lesion healed up wonderfully rapidly, and had not anything like the deep cicatrix usually seen after the older treatment. The patient had already five injections of salvarsan, and after the third the cicatrix had healed up sufficiently to permit of the nose being affixed.

Dr. Graham described the operation, and showed a model demonstrating what he had done.

The President congratulated Mr. Moore and Dr. Graham on the results of the treatment, and asked if the patient was under any medical treatment at present.

Mr. Stokes inquired as to the indication for stopping the injections of salvarsan. Is it given until the Wassermann is negative?

Mr. Pearson looked forward to this case coming up again when the plastic operation was longer done. He considered it possible that this recurrent ulceration around the corners of the mouth should not be looked upon as specific, as the tissues there must be unhealthy, and hence superficial ulcerations might occur in the scar tissue. He would like to know if Mr. Moore regarded this as specific.

Mr. Meldon said he thought a good many cases were marked as lupus that were not lupus, and in many cases a Wassermann was not tried. If the ulceration progressed more rapidly than one expected in lupus, and if it tended to get deeper, it might be regarded as syphilitic. He thought, perhaps, there was a double infection in the present case—namely, tubercular and syphilitic.

Mr. Blayney said this case raised the question as to whether the Wassermann was reliable. It appeared that the lesion on the patient's face was the only evidence of syphilis, and it seemed strange that a micro-organism which usually disseminates throughout the body should confine itself as in this case. The case in its clinical features resembled more tubercular lupus than syphilitic lupus. The question also arose as to whether arsenic has not an effect in these cases.

THE PRESIDENT said he thought Mr. Blayney had raised important points in connection with the case. It was quite

open to question how far the evidence of syphilitic taint was satisfactory. The syphilitic suspicion was formed, in his opinion, by the good effect of salvarsan. Whether congenital syphilis often affects the throat and nose in the degree seen in this patient is also open to question. He expressed the hope that an opportunity would be afforded of seeing the patient again at a later stage, so that the effect of more protracted treatment might be demonstrated.

MR. Moore, replying, said the patient got mercury and iodide of potassium, and it was now proposed to stop this and give a further injection of salvarsan. Regarding the stopping of salvarsan, this would altogether depend upon the condition of the patient. It would be given again if the ulceration went on, but he would not continue it until the Wassermann was negative. As to whether the appearance was tubercular or syphilitic, the throat and palate showed the ulceration to be deep, and ordinary ulceration of a lupoid character was not very deep. The throat healed without treatment, and this was against it being tubercular. Also, numerous gummata were to be seen. The ulceration on the face was very extensive, and there was a great deal more infiltration of the skin than in the ordinary tubercular case. Without any Wassermann at all he had formed the opinion that it was a case of syphilitic lupus, and the Wassermann reaction gave a plus 4. He did not consider a tubercular lupoid ulceration of the throat would have healed up with such rapidity with salvarsan, but the next tubercular case he saw he would give salvarsan a trial.

Excision of Elbow.

DR. CROFTON and MR. STEVENSON exhibited a case of excision of the elbow. The patient shown came to the outpatients' department of Steeven's Hospital about two years ago, when he gave a history of three years' lesion in his elbow. There was also a history of tubercular disease of the lung which had cleared up. The patient stated that some years previously he had glands in his neck and disease about the elbow. The arm was in a bad condition and the fingers very stiff. There were many lesions on the forearm, over which the skin was very soft, and it was stated that a number of surgeons advised him that the only cure was to have the arm amputated. He was at once put on injections of tuberculin, made from dissolving the bacilli in iodoform and ethyl

chloride. These were continued up to .001 gramme, when there was a very severe reaction. Particular care was taken to investigate the other micro-organisms, and a coli-form bacillus was found. Accompanying the iodoform he was given dioradin. The lesion healed up at the end of about a year, with the exception of two small sinuses, at the bottom of which could be felt some small pieces of bone. It was decided to have these removed, and Mr. Stevenson was asked to perform the operation.

Mr. Stevenson said he saw this patient before any treatment was carried out. The arm was swollen, and looked as if nothing but amputation would do any good. When Dr. Crofton had treated him for a considerable time the swelling subsided and the arm had healed. When he operated he found the bones in such a healthy condition that he determined to remove sufficient to give the patient a chance of having a free joint. It was surprising the rapidity with which the wounds healed after the operation, and the result was that there is now very fair movement in the joint.

Tubercular Disease of Hip.

Dr. Crofton said this boy was under Mr. Swan's care for a year, and was discharged in a Thomas's splint. He returned after a week with a temperature, and was at once put on injections of benzyl chloride and iodoform. In about a fortnight the temperature was normal. He was then given dioradin and tuberculin, on which he did very well. The patient was in all thirteen and a half months under treatment and fifteen months in hospital. The pelvis and femur were both affected. X-ray photographs demonstrating various stages during the treatment were shown. Dr. Crofton asked if any one present could suggest an operation to lengthen the leg. The patient was now well for about a year, and he did not consider there was any danger of a further outbreak.

Mr. Stokes asked if the head of the bone was dislocated or was in the acetabulum.

Mr. Kennedy was much interested in the disease of the elbow. His experience was that tubercular joints in adults nearly always end up in excision of the joint. On the other hand, in children the joint is usually fixed, and if they are given open-air treatment in a convalescent home it was wonderful the improvement they make without any treatment.

THE PRESIDENT said that a few years ago he was consulted by a lady who had undergone excision of the elbow for tubercular disease, but at the time he saw her there was some discharge, for which he suggested she should have tuberculin injections, and the last time he had seen her—about a year and a half ago—the trouble in the region of the elbow had quite disappeared.

DR. CROFTON, replying to the remarks, said the cases were exceedingly bad ones, and he considered them good tests of treatment. He had treated a number of cases with tuberculin alone, from which he had some brilliant results and dismal failures, but with iodoform and tuberculin he had more uniform success. If the disease was confined not to the bone but to the synovial membrane one could be absolutely certain of the result. An advantage of the treatment was that if unpleasant reactions occurred, either general or physical, they can always be controlled by giving an organic compound. He was interested in Dr. Kennedy's remarks regarding the treatment of children, but if one did not make sure that their resistance to the tubercle bacillus was normal there was no certainty that they would not become reinfected later.

Mr. Stevenson, replying to the remarks, said the bone was dislocated, and there was very well-marked evidence of the bone having been diseased, but there was no soft bone which is usually associated with tubercular disease.

Compound Fracture of Bones of both Feet.

Mr. Stevenson said that in this case he was sent for to amputate both feet. The patient got his feet jambed between the flanges of the wheel of a railway carriage and the line, so that the soles were simply hanging on from the toes to the heel, the skin being pulled down on the outer side throughout the whole length. He found the dorsalis pedis artery was pulsating, and the blood supply of the toes was good. The patient was treated with saline baths, and some skin supplied by the Rotunda Hospital was grafted on to the feet about twelve hours after removal from the patient. Both feet are now quite healed up, and the patient can walk without support. The case was interesting as the internal cuneiform bone was dislocated, so that its external surface was extended out to the cuboid.

SECTION OF MEDICINE.

President—J. F. O'CARROLL, M.D., F.R.C.P.I. Sectional Secretary—F. C. Purser, M.D., F.R.C.P.I.

Friday, February 27, 1914.

Amyotonia Congenita.

Dr. F. C. Purser showed a male, aged two and a quarter years, suffering from this condition. The child was the seventh in a family of eight. Lues in the father was deemed improbable, but could not be excluded. The condition dated from birth. The child had been always unusually soft; he never used his arms till eight or nine months old; "his head used to fall about any way "; " the neighbours used to come to see where his legs could be put." The child improved gradually till fifteen months old. At that age he got acute rickets. Signs of it are obvious. The child at times has well-marked nystagmus. The discs are normal. Hypermetropia and astigmatism. As regards flaccidity, softness of musculature, absence of deep reflexes, and electrical reactions, the case falls into line with others described. The facial and trunk muscles are least affected, the arms next, and the legs most of all. The child's general condition had impoved during the four weeks he had been under observation. Dr. Purser thought that this was the first case of amyotonia congenita reported in Ireland. [Dr. Purser's communication was published in full in the number of the Journal for April (page 241).

Some Causes of Failure in Vaccine Therapy.

DR. WILLIAM CROFTON read a paper on the above subject. He referred to the doubt thrown on the efficiency of vaccine therapy by Hector MacKenzie and Batty-Shaw and the seriousness for the future of medicine if their views are correct.

In disproof of their statements he brought forward examples of cases which had had prolonged treatment by ordinary methods without success, but had been completely, and so far permanently, cured by vaccine therapy.

He also brought forward cases of acute disease, the ordinary treatment of which was highly unsatisfactory—viz., puerperal fever and typhoid and paratyphoid fever—in which vaccine therapy had produced rapid cure.

He divided the chief causes of failure of vaccine therapy under four heads:—(1) Failure of the patient to react. (2) Failure in the diagnosis of the infecting microbe or microbes. (3) Failure to attain a sufficient dose. (4) Failure to give the doses at suitable intervals.

(1) He referred to conditions in which the patient might not be expected to respond to a further stimulus, but does so, and suggested that the tissues were protected by the resistance of the endothelial cells of the blood-vessels. If these were destroyed, as in hæmorrhagic forms of infection, the disease was always fatal.

He found that old people reacted badly, as did diabetics also, and so on.

(2) A frequent cause of failure was the use of stock vaccines without making an accurate diagnosis. He quoted cases of boils, urethritis, and rheumatism which were not due to the usual microbes in this connection.

The success of autogenous and the failure of stock vaccines by cases of typhoid in which autogenous mixed vaccines had at once succeeded where stock vaccines had failed.

He said that even with an ordinary bacteriological examination one might fail owing to a microbe not growing, and he referred in this connection to a case of pyorrhœa due to the Bacillus fusiformis.

Another cause of failure was the use of a vaccine containing only one microbe when the infection was a mixed one, as frequently in pyorrhœa alveolaris, acne, gastro-intestinal infections, &c.

He referred to infection of one tissue being predisposed to by infection of another—e.g., eczema predisposed to by gastro-enteritis.

(3) He criticised dosage controlled by the principle of the opsonic index done by the original technique. He stated that when it is at its highest there were present in the patient insufficient specific antibodies to produce destruction of the invading microbe. Increase of dose increased the specific antibodies, but the opsonic index did not measure them. So the principle of dosage founded on the opsonic index must be abandoned. He referred to cases in which the dosage had to be pushed very high before success was achieved. He said that of course large doses were not always necessary, the rule being to increase the dose until the patient was well, and then to give a few larger doses to prevent relapse.

(4) Different patients react differently, and so no hard and fast intervals could be set down. Intervals must be gauged by local and general reactions.

He showed how reactions could be controlled by iodine.

Dr. Rowlette said he was very much interested in the paper, and there was very little in it with which he did not agree. With regard to pyorrhoa alveolaris, the difficulty is that in nearly all cases there is a mixed infection, and in mixed infections the difficulties of treatment are enormously increased. Even the most acute single micro-organism was more satisfactory to treat with vaccine. His experience as to the organism in pyorrhœa alveolaris was the same as that of the writer, except that he had not met with Bacillus fusiformis. As the writer of the paper relied on a mixed vaccine from the first culture, he (Dr. Rowlette) would like to know how such vaccines could be standardised. It was recognised that after the initial dose one might be guided by the reaction of the patient, but in the beginning one should have an approximate idea of the number of organisms. His own method was to chose one micro-organism, such as streptococcus, and treat with it for some little time, and in this way one could judge much better the size of the dose to be given. He had seen mild and early cases of pyorrhœa alveolaris cured, but where the case had advanced he had not seen such good results from vaccine treatment alone, and he considered careful local treatment was necessary in such cases.

His experience of the treatment of typhoid with vaccine consisted in the treating some half dozen cases with a stock vaccine. He could not form any very definite opinion of their value.

In cases of boils he always gave a stock Staphylococcus aureus vaccine while an autogenous vaccine was being prepared; but in two recent typical cases of boils he had found the infecting organism to be streptococcus. With regard to the treatment of acne, which was always a mixed infection, he experienced the greatest difficulty in growing the acne, and preferred to treat with staphylococcus first, and with acne bacillus afterwards.

DR. O'FARRELL said, with regard to prognosis with any form of treatment, the result largely depended on how the patient reacted, and a cure could not be promised until this was ascertained. This condition applied to every treatment as well as to one by vaccines. He had not a large experience

of the treatment of sycosis, but he knew of two cases that did particularly well. He had a very extraordinary result in a case of pyorrhœa alveolaris with rheumatoid arthritis. The latter condition cleared up wonderfully, but the pyorrhœa did not. Since then he had very satisfactory results in cases of rheumatoid arthritis in which Staphylococcus albus was isolated from the urine.

The selection of the material from which the vaccine was to be made was of importance; also the question of dose and the method of giving it. It was agreed that an autogenous vaccine was the proper one to use if possible in all cases. He did not consider the Bacillus fusiformis was very rare, as although it may not be got in the culture it may be got in the pus by staining. He did not see much difference between making the vaccine from the primary culture and making it from the sub-culture. A point in favour of making the vaccines from the original culture was that the cocci would be obtained in a more virulent state. He had one or two failures in cases of acne, which he attributed to the dosage, and he, therefore, considered it advisable to follow the case instead of slavishly following any regular dosage.

Dr. Crofton, replying, said with regard to the questions of standardisation and initial dosage, the latter is one of very great difficulty, because the vital power of the toxin used is not known, and one can only commence with a very small dose. There was one point not mentioned in connection with dosage—viz., in cases of infection of the lungs the initial dose must be very much smaller than in other cases. The method of standardisation adopted was to count the organisms on the slide, and in cases of mixed bacteria, the whole lot were counted together without distinguishing between the different kinds. In cases of pyorrhœa alveolaris the patients were always sent to the dentist to see if there were any pockets requiring drainage. Regarding the bacteria which are pathogenic, he considered that if any non-pathogenic organisms happened to be present they could do no harm.

Referring to rheumatoid arthritis, he agreed that these infections were caused by staphylococcus obtained in the urine, but he did not think it was always produced by the same infection. The question of intestinal infection came in in all cases. The Bacillus fusiformis was not rare, but he thought it was uncommon to find it giving rise to pyorrhœa alveolaris.

SANITARY AND METEOROLOGICAL NOTES.

VITAL STATISTICS.

For four weeks ending Saturday, March 21, 1914.

IRELAND.

The average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended March 21, 1914, in the Dublin Registration Area and the twenty-six principal provincial Urban Districts of Ireland was 20.3 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,205,280. The deaths registered in each of the four weeks of the period ending on Saturday, March 21, and during the whole of that period in certain of the districts, alphabetically arranged, correspond to the following annual rates per 1,000:—

		Average Rate					
COUNTY BOROUGHS, &c.	Feb. 28	Mar.	Mar. 14	Mar. 21	for 4 weeks		
27 Town Districts	20.8	19.2	20.0	20.3	20.1		
Dublin Reg. Area	22.3	20.9	22.1	22.3	21.9		
Dublin City	23.3	22,3	24.0	24.9	23.6		
Belfast	20.0	18.3	19.1	21.3	19.7		
Cork	17.0	25.2	17.0	24.5	20.9		
Londonderry	21.6	19.0	15.2	19.0	18.7		
Limerick	29.8	23.0	20.3	17.6	22.7		
Waterford	15.2	7.6	15.2	24.7	15.7		

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 27 districts during the week ended Saturday, March 21, 1914, were equal to an annual

rate of 2.0 per 1,000. Among the 163 deaths from all causes in Belfast were 1 from enteric fever, 3 from scarlet fever, 1 from diphtheria, 7 from whooping-cough, and 3 from diarrhæa and enteritis of children under 2 years. Included in the 36 deaths from all causes in Cork were 1 from scarlet fever and 1 from whooping-cough. One of the 13 deaths from all causes in Limerick was from enteric fever. Of the 3 deaths in Lurgan, 1 was from measles, and of the 2 deaths recorded for Lisburn 1 was from measles.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin, as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 406,000; that of the City being 310,467, Rathmines 39,155, Pembroke 30,240, Blackrock 9,197, and Kingstown 16,941.

In the Dublin Registration Area the births registered during the week ended March 21, amounted to 210—117 boys and 93 girls, and the deaths to 183—103 males and 80 females.

DEATHS.

The deaths registered, omitting the deaths (numbering 9) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 22.3 per 1,000 of the population. During the twelve weeks ending with Saturday, March 21, the death-rate averaged 24.0, and was 0.9 below the mean rate for the corresponding portions of the ten years, 1904–1913.

The total deaths registered, numbering 183, represent an annual rate of 23.5 per 1,000. The annual rate for the past twelve weeks was 25.6 per 1,000, and the average annual rate for the corresponding period of the past ten years was 26.1 per 1,000 of the mean population for all deaths registered.

The deaths included 3 from whooping-cough, 2 from searlet fever, 1 from enteric fever, 1 from diphtheria and from croup (the latter being that of a person admitted to hospital from a locality outside the Area), 14 from measles, 1 death from intermittent fever, and 6 from diarrhea and enteritis in children under 2 years (one of the latter being that of a child from a locality outside the Area). In each of the 3 preceding

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA, AND IN BELFAST, CORK, LONDONDERRY, LIMERICK, AND WATERFORD.

The following Table shows the Number of Cases of Infectious Diseases notified, under the "Infectious Diseases (Notification) Act, 1889," and the "Tuberculosis Prevention (Ireland) Act, 1908," in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the Cities of Belfast, Cork, Londonderry, Limerick, and Waterford, during the week ended March 21, 1914, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Measles	Rubella, or Epi- demic Rose Rash	Searlet Fever	Typius	Relapsing Fever	Diphtheria	Membranous Croup	Pyrexia (origin uncertain) a	Enteric or Typhoid Fever	Erysipelas	Puerperal Pever	Whooping-cough	Cerebro-spinal Fever	A cute Polio- myelitis	Pulmonary Tuberculosis	Total
City of Dublin	Feb. 28 Mar. 7 Mar. 14 Mar. 21	0 0	6 6 *	9 9 2 14	-	-	8 5 6 5		1 2 1	4 5	2 6 4		*		-	26 38 32 17	47 61 50 46
Rathmines and Rathgar Urban District	Feb. 28 Mar. 7 Mar. 14 Mar. 21	0 0		5 - 2 5	-		2 1 1 -			1 -	1 1 1	-			0 0	*	9 2 3
Pembroke Urban District	Feb. 28 Mar. 7 Mar. 14 Mar. 21	28 21 30 25	- 4	2	-	-		-	-		-	- - -	- 2	*		2 -	35 28 30 26
Blackrock Urban District	Feb. 28 Mar. 7 Mar. 14 Mar. 21	0	0 0		-			-		-	-	- - 1	0 0				
Kingstown Urban District	Feb. 28 Mar. 7 Mar. 14 Mar. 21		•	- - - I	- -	-	1	-	-		-					- 4	
(Hty of Belfast	Feb. 28 Mar. 7 Mar. 14 Mar. 21	0 0	0 0	20 41	-		6 1 11 7	-		3 : 2 -	4 2 4 1	1 -		-		6 6 2	5 5
City of Cork	Feb. 28 Mar. 7 Mar. 11 Mar. 21	2 -	* * * * * * * * * * * * * * * * * * * *	1 01 10 33	- - -	-	1	- - 1	- - -	1 - 1 -	1	- - 1	*	* * * *	* *	0 0	
City of London-	Feb. 28 Mar. 7 Mar. 14 Mar. 21		¢ s. v	5			1 1 1		-	-	- 1 -	1 1 1	*	*			
City of Limerick {	Feb. 28 Mar. 7 Mar. 14 Mar. 21			- 3 1 -			1111			1 - -		=======================================	8 8	-			
City of Waterford	Feb. 28 Mar. 7 Mar. 14 Mar. 21			1 1 1 1	-	1 1 1 1	-			-						7	

weeks deaths from whooping-cough had been 1, 3, and 2; from scarlet fever, 2, 0, and 1; from enteric fever, 1, 1, and 0; from diphtheria, 2, 1, and 1; from measles, 7, 4, and 5; and from diarrhœa and enteritis of children under 2 years 2, 5, and 5.

Of 29 deaths from tuberculosis (all forms) 21 were attributed to pulmonary tuberculosis, 4 to abdominal tuberculosis, and 4 to disseminated tuberculosis. This number is exclusive of the death of a person admitted to hospital from a locality outside the Area. In each of the 3 preceding weeks, deaths from all forms of tuberculosis had been 27, 23, and 35.

There were 6 deaths from cancer, or malignant disease. excluding that of a person from a locality outside the Area from the same disease.

There were 3 deaths of infants from congenital debility, 3 deaths from premature birth, 2 deaths from convulsions, and 1 death from congenital malformation.

The deaths from pneumonia included 4 from bronchopneumonia and 4 from pneumonia (type not distinguished).

Thirteen deaths were caused by organic diseases of the heart. There were 32 deaths from bronchitis.

Accident or negligence caused 3 deaths, one being that of a child aged 5 years, by burning.

In 2 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases relate to the death of a child under 5 years of age, and the death of a person aged 75 years.

Seventy of the persons whose deaths were registered during the week were under 5 years of age (35 being infants under one year old, of whom 16 were under one month old), and 33 were aged 65 years and upwards, including 25 persons aged 70 and upwards. Among the latter were 12 aged 75 years and upwards.

Cases of Infectious Diseases under Treatment in Dublin Hospitals.

During the week ended March 21, 1914, 2 cases of enteric fever were admitted to hospital, 3 were discharged, there was 1 death, and 29 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the three preceding weeks having been 29, 24, and 31.

Twenty-one cases of measles were admitted to hospital, 3 cases were discharged, there were 3 deaths, and 64 cases remained under treatment at the close of the week. At the end of the 3 preceding weeks such cases had been 19, 32, and 49, respectively.

Eighteen cases of scarlet fever were admitted to hospital, 21 were discharged, there was 1 death, and 116 cases remained under treatment at the close of the week. This number is exclusive of 12 patients under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital. At the close of the 3 preceding weeks the cases in hospital had been 134, 122, and 120, respectively.

Four cases of diphtheria were admitted to hospital, 11 were discharged, and there was 1 death. The cases in hospital, which at the close of the 3 preceding weeks had numbered 59, 55, and 50 respectively, were 42 at the close of the week under review.

In addition to the above-named diseases, 6 cases of pneumonia were admitted to hospital. 9 were discharged, there were 2 deaths, and 19 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, March 21, in 97 large English towns (including London, in which the rate was 14.2) was equal to an average annual death-rate of 15.2 per 1,000 persons living. The average rate for 16 principal towns of Scotland was 16.6 per 1,000, the rate for Glasgow being 16.1, and that for Edinburgh 19.6.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended March 21. From this report it appears that of a total of 80 cases notified, 33 were of scarlet fever, 27 of phthisis, 11 of diphtheria, and 9 of crysipelas. Among the 551 cases of infectious diseases in hospital at the close of the week were 251 cases of scarlet fever, 187 of phthisis, 62 of diphtheria, 34 of measles, 2 of enteric fever, and 7 of crysipelas.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of March, 1914.

Mean Height of Barometer, -- 29.564 inches. Maximal Height of Barometer (2nd, at 9 p.m.) 30.079 Minimal Height of Barometer (25th, at 4 p.m.), 28.922 Mean Dry-bulb Temperature, 42.7°. Mean Wet-bulb Temperature, 40.5°. Mean Dew-point Temperature. - 37.8°. Mean Elastic Force (Tension) of Aqueous Vapour, .231 inch. Mean Humidity. - 83.1 per cent. - -Highest Temperature in Shade (on 31st), 59.0°. Lowest Temperature in Shade (on 20th). 29.8°. Lowest Temperature on Grass (Radiation) (20th) 27.7°. Mean Amount of Cloud. - 53.6 per cent. Rainfall (on 26 days), 2.104 inches. Greatest Daily Rainfall (on 28th), -- .239 inch. General Directions of Wind, - -- S.W., W.

Remarks.

March, 1914, closely resembled March, 1913, which was described as "an unsettled, windy month, of medium temperature, frequent although not heavy rains, and preponderating westerly and south-westerly winds." In the present year, the mean temperature of the month was slightly above the average, but curiously enough it fell short of the mean temperature of February by some 2 degrees, thus showing a remarkable relapse to winterly conditions. Throughout the month the British Isles lay in the track of successive low pressure systems advancing from the Atlantic, and most of these disturbances passed with their centres north of the parallel of 54 degrees N. A notable exception was a cyclonic depression which travelled up the English Channel and across the south-east of England to the North Sea on the 20th and 21st. In that disturbance the barometer fell to 28.6 inches. and easterly to northerly winds and heavy falls of cold rain. hail, sleet and snow prevailed in the south and east of England. Temperature was low in Ireland, especially during the second, third and fourth weeks of the month; but the last three days were quite spring-like in their mildness, and went far to restore the balance of the mean temperature of the month.

In Dublin the arithmetical mean temperature (44.1°) was 0.4° above the average (43.7°) . The mean dry-bulb readings at 9 a.m. and 9 p.m. were 42.7° . In the forty-nine years ending with 1913, March was coldest in 1867 and 1883 (M.T. = 39.0°), and warmest in 1903 (M.T. = 48.1°). In 1913 the M.T. was 43.8° .

The mean height of the barometer was 29.564 inches, or 0.352 inch below the corrected average value for March—namely, 29.916 inches. The mercury rose to 30.079 inches at 9 p.m. of the 2nd and fell to 28.922 inches at 4 p.m. of the 25th. The observed range of atmospheric pressure was, therefore, 1.157 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 42.7° . Using the formula, $Mean\ Temp.=Min.\cdot(Max.-Min.)\times.485$, the M.T. becomes 43.9° . The arithmetical mean of the maximal and minimal readings was 44.1° , compared with a thirty-five years' (1871–1905) average of 43.7° . The mean maximum was 49.9° ; the mean minimum, 38.2° . On the 31st the thermometer in the screen rose to 59.0° —wind, S.S.W.; on the 20th it fell to 29.8° —wind, N.W. The minimum on the grass was 27.7° , also on the 20th.

The rainfall was 2.104 inches, distributed over 26 days. The average rainfall for March in the thirty-five years, 1871–1905, inclusive, was 1.910 inches, and the average number of raindays was 17. The rainfall, therefore, and especially the raindays were above the average. In 1867 the rainfall in March was very large—4.972 inches on 22 days. On the other hand, the smallest March rainfall was .288 inch on 8 days in 1893. In 1913, the rainfall was 2.155 inches on 22 days.

High winds were noted on 14 days, and reached the force of a fresh gale on the 6th, 14th and 16th. A solar halo appeared on the 7th, 17th and 23rd. There was a lunar halo on the 8th, and a lunar corona on the night of the 9th. Hail fell on the 1st, 9th, 10th, 16th, 19th, and 22nd; sleet or snow on the 9th, 10th, 17th and 19th. The lowest daily maximum temperature was 41.8 on the 19th. The highest daily minimum was 47.2° on the 31st.

The rainfall in Dublin during the three months ending March

31st amounted to 5.585 inches on 57 days, compared with 3.292 inches on 44 days in 1911, 8.799 inches on 61 days in 1912, 8.333 inches on 55 days in 1913, and a thirty-five years' (1871–1905 inclusive) average of 6.130 inches on 50.0 days.

At the Normal Climatological Station in Trinity College. Dublin, Mr. S. A. Clarke reports that the mean height of the barometer was 29.561 inches. The range of atmospheric pressure was between 30.07 inches at 9 p.m. of the 2nd and 28.98 inches at 9 a.m. of the 20th. The mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 44.0°. The arithmetical mean of the daily maximal and minimal temperatures was 43.8°. The screened thermometers rose to 61.2° on the 31st, and fell to 28.0° on the 25th. On the 25th the grass minimum was 21.0°. Rain fell on 19 days to the amount of 1.951 inches, the greatest fall in 24 hours being .197 inch on the 15th. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 110.2 hours, of which 8.2 hours occurred on the 22nd. The mean daily duration of bright sunshine was 3.6 hours, compared with only 2.4 hours in March, 1913. The mean earth temperatures were—at 1ft., 44.0°; at 4ft., 45.3°.

Captain Edward Taylor, D.L., returns the rainfall at Ardgillan, Balbriggan, Co. Dublin, as 2.07 inches on 22 days. This amount was 0.01 inch above the average, and the raindays were 5 in excess. The largest measurement in 24 hours was .43 inch on the 11th. Up to March 31st, the rainfall at Ardgillan amounted to 5.16 inches, or 1.31 inches below the average, and the rain-days were 54, or 4 in excess of the average number for the first quarter of the year. The thermometers in the screen rose to 58.9° on the 31st, and fell to 28.9° on the 11th and 20th. The wettest March was in 1903—3.86 inches on 26 days; the driest in 1893—0.66 inch on 9 days.

Mr. T. Bateman returns the rainfall at The Green. Malahide, Co. Dublin, as 1.83 inches on 19 days. The greatest rainfall in 24 hours was .305 inch on the 11th.

The rainfall at Stirling, Clonee, Co. Meath (231 feet above the sea), is returned by Mr. J. Pilkington as 2.08 inches on 24 days, the largest measurement on any one day being .23 inch on the 7th—.22 inch was recorded on the 3rd and again

on the 30th. At Stirling, 6.36 inches of rain have fallen on 57 days during the first quarter of 1914.

At the Ordnance Survey Office, Phœnix Park, Dublin, rain fell on 20 days to the total amount of 1.915 inches, the largest measurement being .220 inch on the 3rd. The duration of bright sunshine was 127.2 hours, of which 9.1 hours occurred on the 29th.

Miss C. Violet Kirkpatrick measured 2.17 inches of rain on 18 days at Cheeverstown Convalescent Home for Little Children, Clondalkin, Co. Dublin. The largest amount recorded in 24 hours was .30 inch on the 30th.

Dr. C. Joynt, F.R.C.P.I., returns the rainfall at 21 Leeson Park, Dublin, as 1.870 inches on 23 days, .250 inch being measured on the 28th.

Mr. Harold Fayle returns the rainfall at 19 Highfield Road, Rathgar, Co. Dublin, as 1.88 inches on 25 days, the largest measurement in 24 hours being .32 inch on the 28th.

Dr. Arthur S. Goff reports that at Belfort House. Dundrum, Co. Dublin, rain fell on 25 days to the amount of 1.82 inches, compared with an average of 2.64 inches on 20 days in the 10 years ended with 1910. The greatest daily rainfall was .40 inch on the 28th. The temperature in the shade ranged from 29° on the 20th to 59° on the 31st. The mean shade temperature was 44.0°, compared with a ten years' (1901–1910) average of 43.7°, 45.9° in 1912, and 43.8° in 1913. Snow showers fell on the 19th.

At Manor Mill Lodge, Dundrum, Co. Dublin, Mr. George B. Edmondson recorded a rainfall of 2.08 inches on 27 days, the maximum in 24 hours being ,44 inch on the 28th. The mean temperature of the month was 43.2°, the extremes being—highest, 58° on the 29th, 30th & 31st; lowest, 29° on the 20th.

At Marino, Killiney, Co. Dublin, Mr. W. McCabe, the observer for the Right Hon. L. A. Waldron, registered 1.63 inches of rain on 18 days, the greatest fall in 24 hours being .42 inch on the 28th. At Killiney the average rainfall for March in the 24 years, 1885–1908, inclusive, was 1.948 inches on 17 days.

Dr. A. J. Blake, Resident Medical Superintendent of the Sanatorium of the Dublin Joint Hospital Board, at Crooksling, Brittas, Co. Dublin, reports a rainfall in March of 2.71 inches on 21 days, the heaviest fall in 24 hours being .40 inch on the 3rd.

Dr. J. H. Armstrong reports that at Coolagad, Greystones, Co. Wicklow, 3.04 inches of rain fell on 22 days. The maximal fall in 24 hours was .65 inch on the 28th.

At Auburn, Greystones, Co. Wicklow, Mrs. Sydney O'Sullivan recorded a rainfall of 2.20 inches on 17 days, the maximum in 24 hours being .54 inch on the 28th.

Dr. Charles Denys Hanan, M.D., Resident Medical Officer, reports that the rainfall at the Royal National Hospital for Ireland for Consumption, Newcastle, Co. Wicklow, was 3.27 inches on 18 days, the maximal fall in 24 hours being .75 inch on the 28th. The mean air temperature was 43.2°—the extremes being—highest, 56° on the 4th; lowest, 31° on the 11th and 20th. The mean maximum was 49.1°; the mean minimum, 37.3°.

The Rev. Arthur Wilson, M.A., writing from Dunmanway Rectory, Co. Cork, states that 8.73 inches of rain fell there on 29 days, 1.42 inches being measured on the 28th, .97 inch on the 11th, and .75 inch on the 13th. The rainfall was 3.03 inches over the average, and was the heaviest in this month since 1905, when 10.25 inches fell in March. From January 22nd to March 31st there were only 2 rainless days-March 8th and 19th. In a continuous fall of some 12 hours—from about 5 a.m. to 5 p.m. of the 28th, 2.06 inches were measured. The 27th had been a lovely warm day. On the last 6 days 3.71 inches of rain fell, and 2.60 inches from the 11th to the 14th inclusive. Snow or hail fell on the 10th, 17th and 18th. Thunder and lightning occurred on the night of the 20th with an accompanying rainfall of only .05 inch. The rainfall of the first quarter of 1914 at Dunmanway equals 24.62 inches—an amount which is 7.81 inches over the average— 16.81 inches

POST OPERATIVE HICCOUGH.

M. Auvray relates that in a very troublesome case of hiccough. lasting eight days, following on the excision of a suppurating gland of the neck succeeded by an attack of erysipelas, he gave a hypodermic of morphine over the phrenic nerve. Little by little the hiccough diminished and finally disappeared.—

La Quinzaine Thérapeutique, March 10th, 1914.

PERISCOPE.

THE EXHIBITS OF THE LIBERAL ARTS AT THE PANAMA PACIFIC INTERNATIONAL EXPOSITION AT SAN FRANCISCO IN 1915.^a

The purpose of the Panama-Pacific International Exposition is to assemble the Nations of the World in a universal celebration of the completion of the Panama Canal. The achievement commemorated is generally conceded to be the greatest triumph yet registered by man over the sometimes unfriendly forces of Nature. With such an event to commemorate, it is but natural that the Department of Liberal Arts should be given the importance of a splendid representation, because it is as one of the "liberal arts" that the division of human energy devoted to civil engineering is scheduled in the Exposition's book of classification. But aside from the sentimental reasons urging a special effort in the department most intimately associated with the initial cause of the great celebration—the building of the Canal—there are concrete reasons for the splendid display that is already assured.

Taking the United States Census figures relating to liberal arts, for the year 1909, statistics for once become alive with interest and fraught with magnitude. Approximately two billion dollars was the valuation of the gross products in liberal arts, and in but a single division of the varied enterprises, listed as liberal arts—the graphic arts section, including "typography," "books and publications," and "maps and apparatus for geography "-involved the output of 32,414 establishments in the United States, employing 416,073 persons, earning \$289,629,000 and producing an output valued at \$783,477,000. The invested capital amounted to \$632,590,000. And this from but one division of liberal arts, and based on figures from a nation that exported in that year but 6 per cent. of the total output. Since the total exports of the world in liberal arts exceeds the almost unthinkable figure of \$1,000,000,000 annually, it is obvious that interest in this domain of human activity is conterminous with the human race, involving the housewife ordering her

The Editorial Staff of the Panama-Pacific International Exposition is gratified to submit with its compliments the following article concerning the exhibits of the Liberal Arts at the Exposition, which will open in San Francisco, California, on February 20, 1915. Many inquiries have been received from all parts of the world regarding the Liberal Arts exhibits.

family supplies "per 'phone," no less than the musician selecting his violin or the surgeon his delicate instruments. Of old, the country fair, familiar to the history of every community, was a centre of "free trade." A horse was worth as many pigs as the trade instinct on one side could secure in opposition to the shrewdness of his opponent with the pigs, and a bonnet might be traded for a ham. The people came with money or goods and returned with goods or money. The exchanges were in the material and concrete, and in a few days the fair was as much a thing of the past as last season's circuit rings.

The modern Exposition, such as the present, involves a sum of money in preparation of grounds, construction of buildings, erection of towers, installation of exhibits and aggregate value of displays, comprising a total beyond the capacity of the mind to grasp or the imagination to compass. To such an enterprise people come with ideas as the media of exchange and depart with widened sympathies, extended knowledge and awakened sensibilities. Lessons are learned at first hand from original sources of supply. Consumer meets producer face to face and each is the richer for the contact. The Palace of Liberal Arts is one of the most costly as well as beautiful structures on all the 625 acres of Exposition domain. It is difficult to estimate the cost of any of the main exhibit palaces because the courts which they encircle become in a definite sense part of them—the walls of the courts being the walls of the buildings—but the Palace of Liberal Arts, standing in completion without consideration of the adornment of its walls which abut on two different courts, will cost a trifle under \$350,000. It, with seven other main exhibit palaces (there are ten altogether) are grouped in a rectangular manner around three grand courts, the central one of which will easily sustain its name of the "Court of the Sun and Stars," the magnificence of which will be one of the marvels of the Exposition. Its entrance will be dignified and illuminated by the Tower of Jewels, which will be a steel tower 433 feet high, hung over with "jewels" cut in Austria, gleaming by day in the light of California's sunshine, and by night by an entirely new method of illumination which will revolutionise the old style of "line lighting." The finish of the Palace of Liberal Arts in common with that of all of the other exhibit palaces will be in Travertine marble, the effectiveness of which has been splendidly demonstrated in the completed Palace of Machinery. The adaptation of this kind of finish to architecture was first successfully accomplished by Paul E. Deniville on the noted Pennsylvania depot in New York City. Deniville's services were secured by the Exposition, and he was given charge of the nice work of covering the palaces of exhibits with this imitation stone in which they appear in the tones and suggested stability of the palaces of the Roman Emperors.

The displays in the Palace of Liberal Arts are to be assembled in fifteen groups, involving 121 classes of exhibit. These are the groups:—(1) Typography, various printing processes: (2) books and publications, book-binding; (3) maps and apparatus for geography, cosmography and topography; (4) manufacture of paper; (5) photography; (6) instruments of precision, philosophical apparatus, coins and medals; (7) medicine and surgery; (8) chemical and pharmacal arts; (9) musical instruments; (10) theatrical appliances and equipment; (11) electrical methods of communication; (12) civil and military engineering; (13) models, plans and designs for public works; (14) architecture; (15) architectural engineering.

It was at the Paris Exposition in 1855 that scientific experiments assumed their proper relation to exhibitional activities, a position which they have ever since commanded to the great advantage of science and the propagation of its principles, through popular means, among the people. The then recent discoveries of Beaumont and Mayor were an illuminating feature of the world's fair of 1855. Beaumont and Mayor exhibited an apparatus which consisted of a wooden cone covered with hemp and moving with a velocity of 400 revolutions a minute in a hollow copper cone which is fixed and immersed in the water of a sealed boiler. The surfaces were covered with oil. By means of this apparatus 88 gallons of water were raised from 10 degrees to 150 degrees in a few hours. This experiment, showing how heat generated by motion may be conserved in water. was regarded at that time as a very important contribution to the science of the day. Since then no Exhibition of international consequence has been without some striking demonstration of the advance of man into the mysteries of nature—demonstrations such as that of Professor Himalaya at St. Louis, when by means of innumerable mirrors he concentrated the sun's rays until they disintegrated asbestos and fire clay in their focused fiery heat at a temperature estimated at 7,000 degrees Fahrenheit above zero. Some unusual experiments are promised at the forthcoming Exposition, and in the department devoted to instruments of precision and philosophical apparatus there will be, it is expected, from France as well as other nations a comprehensive display of extraordinary interest.

The photographic art encroaches so closely upon the domain of the fine arts that there was for some time much discussion in the Exposition directorate whether in fact the art pictures of the great photographers should not be placed in the Palace of Fine Arts. It was at length decided in this case to follow the plan of classification that obtains throughout the Exposition, and to display the product along with the means of producing it. As cameras and the paraphernalia preliminary to the completed photograph belong to the department of Liberal Arts and not to the Fine Arts, so the photographs should also be placed with the Liberal Arts, thus bringing the processes and the product into proximity and proper relationship for study and comparison. There will be set aside in the Palace of Liberal Arts a large section which will be devoted exclusively to the processes and products of photography, together with all of the equipment from which the finished picture of the commercial photographer who aims at accuracy, to the finished portrait of the art photographer who aims at beauty or self expression, will be revealed. From France, as hitherto, a splendid exhibit is promised, particularly in cameras and accessories. Great Britain makers and photographers are much interested in the display, and will participate effectively whether their Government takes official part or not. Domestic photographers and makers of photographic apparatus are promising a large exhibit, urged thereto by the prizes of merit and extended trade that wait on the successful exhibitors at the Panama-Pacific International Exposition. German exhibitors will follow Great Britain's lead in a representative display, which, it is expected, will be particularly fine in their purely pictorial or artistic effectiveness, and also there will be shown the great advance which is being made in the perfection of the telephotograph which is produced by electrical means at a distance of from eight to ten miles away from the subject "photographed."

And so in every branch of the department of Liberal Arts, of which Mr. Theodore Hardee is the chief, this account of the activities might be indefinitely extended: but the fact can be summed succinctly and accurately in the statement that the Panama-Pacific International Exposition in its department of Liberal Arts as in all of its other activities, promises to be the climax in the history of Exhibitions and entirely worthy of the epochal event it will commemorate.

NAVAL MEDICAL SERVICE. EXAMINATION FOR APPOINTMENTS AS ACTING SURGEONS.

THE Director-General of the Medical Department at the Admiralty announces that at the examination for the Naval Medical Service held on March 30 and 31 and April 1 and 2, 1914, 17 candidates were successful and obtained the following marks:—

ALLOWATED 6	
Name and Medical School	Marks
F. C. Hunot, Guy's Hospital -	
H. B. Parker, M.B., London Hospital	1,728
R. F. Quinton, London Hospital	1,685
J. L. Priston, London Hospital	1,665
M. J. Aitken, M.B., Glasgow University	1,665
J. A. Maxwell, M.B., B.A., Trinity College. Dublin	1,610
W. G. Thwaytes, M.B., Edinburgh University -	1,555
M. S. Moore, M.D., B.A., Trinity College. Dublin	1,513
	1,470
F. E. Fitzmaurice, University College, Cork -	1.433
C. E. Greeson, M.D., Aberdeen University -	
T. J. O'Riordan, M.B., University College, Cork -	1,385
	1.375
H. W. Fitzroy-Williams, M.B., Victoria University	
Manchester	1,373
T. Hill, M.B., University College, Cork -	1,343
J. M. Horan, University College, Cork	1,295
G. M. Graham, M.B., Edinburgh University -	1,233
The maximum number of marks obtainable is 2,	

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PART I. ORIGINAL COMMUNICATIONS.

ART. XVII.—A Retrospect of Vital Statistics in Ireland.^a
By Sir William J. Thompson, M.D. Dubl.,
F.R.C.P.I.; Registrar-General for Ireland.

A FEW words regarding the history of the Department over which I have the honour of presiding may not be considered out of place on the present occasion.

In England and Wales central registration was established in the year 1837; in 1855 the first Registrar-General for Scotland commenced to collect statistics, and in 1864 Mr. William Donnelly, C.B., who was Registrar-General of Protestant Marriages from the year 1845, was appointed Registrar-General of Marriages, Births, and Deaths for Ireland. On Mr. Donnelly's retirement in 1876 he was succeeded by Dr. Burke. Dr. Burke died in 1879, when Dr. Grimshaw was appointed, and continued in office until 1900. He is in the recollection of a great number of those present as one who was a staunch supporter of the Royal College of Physicians of Ireland, and devoted a great deal of time to forwarding public health movements. The part

^{*} Read before the Section of State Medicine in the Royal Academy of Medicine in Ireland, Friday, April 17, 1914.

he took in establishing and working the Dublin Sanitary Association and in forwarding the erection of Newcastle Hospital for Consumption is well known to all his friends.

Sir Robert Matheson succeeded Dr. Grimshaw in 1900, and retired in 1909, the date of my appointment as Registrar-General. The many valuable works and publications which Sir Robert Matheson issued are well known to many of us.

The first report for the year 1864, and the following reports up to 1870, were not summarised, as these did not include a decennial period, so that until the end of the year 1880 there was not material for a Decennial Summary of Irish Statistics for comparison with the periods adopted in England and Wales and Scotland.

The first annual report is signed by Mr. Donnelly, and submitted to John Poyntz, Earl Spencer, K.G., on the 31st of March, 1869. This report contains a letter from Dr. Burke, who prefaces his remarks with the observation that "there can be no doubt that the number of deaths registered very imperfectly represents the deaths which occurred during the year." The actual number registered was 93,144, the proportion being 1 in 61 persons living. In England and in Scotland in that year the proportion was 1 in 42, or, expressed in other words, the Irish rate was 16.5 per 1,000 as compared with 23.7 per 1,000 in England and 23.6 in Scotland.

The birth-rate of Ireland in 1864 was 24.2 per 1,000; of England 35.4; and of Scotland 35.6; and the marriage-rate in Ireland was 4.9 per 1,000, as compared with 8.6 in England and 7.2 in Scotland. The nomenclature of diseases and causes of death used was practically the same in each country, and derived from that devised by Dr. William Farr, who so long and ably presided over the Statistical Department of the English Registrar-General's office, and is acknowledged to be the pioneer of British Vital Statistics.

In this report there was no discrimination of "fever"; both enteric and typhus were classified under this title. There are also some other omissions of titles which are of importance in the earlier reports, but on the whole the nomenclature is comprehensive and useful for the purposes of comparison with subsequent periods of classification.

The Decennial Report for the 10 years, 1871-1880, was signed by Dr. T. W. Grimshaw on the 4th of August, 1884, and submitted to Earl Spencer, K.G. The nomenclature was unchanged during the period commencing with the year 1864, with certain developments—i.e., the term "fever" being replaced by three titles—namely, typhus, enteric fever, and simple continued fever.

The principal features of mortality in the decade under notice are (I.) the deaths from smallpox, which numbered 7,550, the largest yearly figure accruing in 1872—namely, 3,248 deaths; and (II.) the deaths from fever, which numbered 30,092, including 7,495 deaths from typhus, 9,746 deaths from enteric fever, and 12,851 deaths from ill-defined forms of fever. A peculiar feature of Irish Statistics is the large number of deaths of women from diseases of pregnancy and childbirth between the ages of forty-five and fifty-five. These numbered 256 during the period, or 1.7 per 1,000 married women at that age period. The deaths from pulmonary tuberculosis registered in the decade numbered 103,528, or 1.96 per 1,000 of the annual average population.

A valuable asset to the first and subsequent Decennial Summaries is the contribution of Meteorological Observations, by Dr., now Sir John, Moore, D.Sc., the pioneer in Ireland of Meteorological Observations, taken at 40 Fitzwilliam Square, Dublin.

The second Decennial Summary (1881-1890) was submitted by Dr. T. W. Grimshaw on the 12th of December, 1894 to His Excellency Robert Offley Ashburton, Baron Houghton, the then Lord Lieutenant of Ireland.

This report shows a development in the nomenclature of diseases and causes of death, there being an arrangement of 8 classes instead of 5; but the general classification

remained practically the same—e.g., into febrile and zymotic and local diseases. The statistics of vaccination of those dying of smallpox were recorded in the decennial period under notice, and many developments in the details of classification were introduced.

During this period the deaths from smallpox numbered 241, as compared with 7,550 in the preceding decade.

Statistics of vaccination—first collected in 1882—show that from that year to the end of the year 1890, 895,787 primary vaccinations were successfully performed. The total number of births registered in the decade was 1,150,463. Deaths from fever numbered 18,067, as compared with 30,092 recorded in the previous decennial period. Of the 18,067 deaths, 5,457 were from typhus, 7,995 were from enteric fever, and 4,615 were attributed to simple or ill-defined fever. Pulmonary tuberculosis caused the deaths of 103,314 persons—this figure being equivalent to an annual average rate of 2.1 per 1,000 of the estimated population.

The third decennial period commenced under the auspices of Sir Robert Matheson, then Mr. Robert Matheson, B.L., whose official birth took place in the Department over which he subsequently presided so ably for nine years. The report was submitted to His Excellency William Humble, Earl of Dudley, on the 12th of May, 1904.

The nomenclature of causes of mortality is preserved from the preceding decennial period, and the report contains four coloured diagrams, showing the comparative mortality rates of England, Scotland and Ireland for the following diseases:—Enteric fever, diphtheria, influenza and pneumonia.

In the decennial period, 1891-1900, the deaths from smallpox numbered 235, the total fevers, 11,875, including 1,904 deaths from typhus, 8,692 from enteric fever, and 1,279 deaths from ill-defined fever. During this period the formidable disease known as influenza fastened upon the country.

In the first decade of Irish Statistics 972 deaths were registered from this cause, and in the whole period from the initiation of death registration in Ireland up to the end of 1889, the average number of deaths in the whole of Ireland was 103 per annum. During these years there was not any epidemic of influenza in Ireland. In 1890, however, the disease prevailed as an epidemic, causing 1,712 deaths, or 3.6 per 10,000 of the estimated population for the middle of that year. In the decade under notice the number of deaths recorded from influenza amounted to 20.805 (males 10.067 and females 10.738). In the year 1900 the number of deaths from influenza was 4,677, equal to an annual rate of 10.5 per 10,000 of the estimated population for that year. The mortality from influenza may be considered the leading feature of vital statistics for the period 1891-1900.

An advance in the nomenclature of the causes of death was initiated by Dr. Tatham, Medical Superintendent, English Registrar-General's Office, for the decade 1901-1910, by the adoption of a list culled from the nomenclature of the London College of Physicians, edited in the year 1896 (the decennial revision). According to this classification the causes of mortality were broadly divided into two groups—namely, (A) General diseases, and (B) Diseases of particular organs. This classification obtained during the decade, and was succeeded, in the year 1911, by the adoption of the International Nomenclature of Causes of Death. Of the total deaths registered during this decennium, 65 were caused by smallpox, 5,635 by "fever"—the latter including 680 deaths from typhus, 4,567 from enteric fever, and 388 from ill-defined fever. The deaths from pulmonary tuberculosis amounted to 116,266, affording an average annual rate of 2.6 per 1,000.

The report under review gives us four ten-yearly periods in the history of the Vital Statistics of Ireland for the purposes of comparative study. A brief review of the leading figures relating to Irish Statistics teaches that in the year 1865 the population of Ireland, estimated to the middle of that year, was 5,594,589. In the last year of the decade (1901-1910) it was 4,385,421, a reduction of 21.6 per cent. in the space of forty-five years. The highest marriage-rate, 5.51, obtained in 1865, and in 1910 it was 5.04; the birthrates were, respectively, 25.9 and 23.3; the death-rates, 16.7 and 17.1; and the emigration-rates, 18.1 and 7.4. The highest marriage-rate recorded in the forty-six years was 5.51 in the year 1865, and the lowest 3.92 in the year 1880; the highest birth-rate was recorded in the year 1871—namely, 28.1, and the lowest, 22.3, in 1890. The maximum death-rate was in 1880, namely, 19.8, and the minimum was 15.8 in 1868. The rate of emigration reached its highest figure in the period under review in 1883, when 21.6 per 1,000 of the inhabitants of Ireland sought homes in other countries; the year of lowest emigration figure was in 1908, when 5.3 per 1,000 of the people were counted as emigrants.

The advance of education is demonstrated by the increase in the proportion of persons who signed their names in writing in the Marriage Register. In 1864, over 60 per cent. of the men and nearly 50 per cent. of the women, married, signed "by mark." These figures have fallen to 6.5 and 4.7, respectively, in the year 1910, the last of the decade.

The statistics of marriages bring out the fact that there has been a marked diminution in marriages at early ages in Ireland. Among females, in 1864, the proportion of minors was 18.16 per cent., and in 1910, 6.28 per cent. In the same years the rates for males were 3.77 and 1.51 per cent., respectively.

With reference to the births of illegitimate children in Ireland, it is a gratifying characteristic of the statistical records of the country that the illegitimate birth-rate is the lowest of any other nation, so far as this is known. In the decade, 1871-80, this rate was 2.4 per cent. of registered births, in the second decade it was 2.7, in the third decade it was 2.6, and in the period under notice this percentage was repeated. In the ten years, 1901-1910, the

percentage of illegitimate births in the provinces of Ireland was as follows:—In Leinster 2.7 per cent., in Munster 2.3 per cent., in Ulster 3.4 per cent., and in Connaught 0.7 per cent.

The information concerning multiple births in Ireland was afforded in the Annual Report of the Registrar-General for the first time in 1908, and this information has been given in each subsequent report. The figures for the year 1908 were as follows:—There were altogether 102,039 births registered; there were 1,198 twin births, and ten triplets—the twin births being equivalent to 1.174 per cent. of the total births registered.

As before mentioned, the classification of causes of deaths, which was adopted in the year 1901, was in accordance with the official nomenclature of diseases published by the Royal College of Physicians, London, in the year 1896. The same course was adopted in England and Scotland, great care being observed to retain the continuity with previous systems, so that comparison can be made in the mortality occurring in the three previous decades for diseases and groups of diseases.

The epidemic diseases are found in Group A. of the general diseases, and the figures for the so-called epidemic diseases show a remarkable reduction, with the single exception of diphtheria.

In the aggregate, the death-rate from the principal epidemic diseases declined from 21.7 per 10,000 in the first decade to 14.3 per 10,000 in the second decade, to 12.5 in the third, and to 9.2 in the fourth, now the subject of study.

The mortality from influenza—namely, 13,726 deaths, although not included in the figures for principal epidemic diseases—is higher in the decade, 1901-1910, than any other single infectious disease; in the preceding decade they numbered 20,805, in the decade 1881-1890—2,099, and in the decade 1871-1880—972.

In addition to the substantial reduction of the mortality from epidemic diseases generally, there are three features of special interest in the ten-yearly record now before the Academy. The first is the reduction of the death-rate from tuberculous disease, the second the occurrence of two epidemics of cerebro-spinal fever, and the third the decrease in the number of children vaccinated in Ireland.

The highest annual death-rate for tuberculous disease recorded in Ireland was 2.9 per 1,000 of the population. This rate obtained in the years 1880, 1897, 1898, 1900, and 1904. The death-rate declined from 2.9 to 2.7 in each of the three following years, to 2.6 in 1908, and to 2.3 in 1910. In the last year of record—1912—it had further declined to 2.15 per 1,000. The mortality from tuberculous disease has decreased 20.7 per cent., when the year 1910 is compared with the year 1904.

In the Report of the Registrar-General for the year 1907 all the available information regarding the epidemic of cerebro-spinal fever which existed in Ireland in that year has been collected and printed in tabular form. During the year the deaths of 631 persons were ascertained to have been caused by this disease. Of the total number, 495 belonged to the City of Belfast, 39 were registered in the Union of South Dublin, and 13 in Lurgan Union.

In the year 1906 the number of deaths from cerebrospinal fever was 12. In the year 1908 the number was 127, of which 61 belonged to Belfast; 30 deaths were registered in Dublin North and South Unions, and 6 in Lurgan Union.

For the year 1904 the statistics of records of vaccination were re-adjusted, and the figures for that and subsequent years are an interesting and most important study. In the year 1904 the percentage of successfully vaccinated children was 81, rising in 1905 to 82, declining in each of the following two years to 80.4 per cent., in the year 1908 to 78.9 per cent., in the following year to 78.3, and in 1910 the percentage of vaccinated children, born in that year, was 77.3, so that the decrease between the years 1904 and 1910 shows a decline of 3.7 per cent. of vaccinated children. According to Table I. in the Report, for

children born in 1910—namely, 101,963—there were 9,913 defaulters, who were not granted an extension under Form B. in first schedule, as against 5,662 in the year 1905. In my Annual Report for the year 1912—in which year the rate was 72.6—I referred to this catastrophe in the following terms:—

"There is only one possible protection against the infection of smallpox, and that is by efficient vaccination, and calamity is bound to fall, sooner or later, on an unvaccinated community."

In conclusion, I have brought this short review before the Academy of the official records of some of the Irish Vital Statistics with the hope that the ventilation of leading facts may result in a more rapid advance towards improvements in the direction in which they are required, and I quote the words of a distinguished American sanitarian—Dr. Herman Biggs:—

"Public health is purchasable. Within natural limitations a community can determine its own death-rate."

ART. XVIII.—Leuco-Sarcomatosis.^a By W. D. O'Kelly, M.D., D.P.H.; Assistant in Pathology, U.C.D.; Assistant Pathologist, Mater Misericordiæ Hospital, Dublin.

In 1905 Sternberg collected a series of cases which presented the combined features of acute leukæmia and distinct tumour formation. Since then a few cases have been added, yet the disease is either omitted or dealt with in a few lines in the ordinary text-books of Medicine and Pathology. These cases, whilst differing widely from one another in the blood-findings and in the situation of the tumour, have yet so much in common that the condition must be recognised as a clinical entity, and not merely a collection of examples of acute leukæmia in which a tumour was accidentally discovered at the necropsy. The disease, to which the name "leuco-sarcomatosis" has been given, raises many points of interest, and as we re-

^a Read in the Section of Pathology of the Royal Academy of Medicine in Ireland on Friday, January 2, 1914.

cently had a case under observation at the Mater Misericordiæ Hospital I thought the details sufficiently important to be brought before this Section of the Academy.

Case.—The patient, a tall, slender youth of nineteen years, who was employed as a groom, got a severe wetting on August 25th, 1913. He felt unwell after it, and six days later had to go to bed, where he remained for eight days. The rest benefited him somewhat, and he resumed work, but he was not quite restored to health, and had to give up. Without any definite symptoms except weakness he remained idle, and, as no improvement occurred, he was admitted to the hospital on September 19th. His family history was good. He was always of temperate habit. Up to August he had been free from illness since childhood. On examination he was pale and weak. Saliva dripped from his mouth, which showed numerous small ulcers on the gums and cheeks. His temperature was 100° F. On percussion. the area of splenic dulness was increased, but the organ could not be felt. There was no general glandular enlargement. but the inguinal groups were somewhat larger than normal. The condition of the mouth could not be satisfactorily explained. Mercurial stomatitis was negatived by the denial of syphilitic infection and by the patient's statement that he had not taken any medicine. To decide the matter, Sir Joseph Redmond, under whose care the patient came, and to whom I am indebted for the clinical details and for permission to bring forward the case, asked me to collect the blood for a Wassermann reaction. When the blood had clotted the serum was found to be quite milky. I immediately made a blood-examination, with the following result:-

Red Cells—1,472,000 per c.mm. Aniso- and poikolicytosis present, but not to any marked degree. Two megaloblasts were found. No basophilic forms were seen.

Hæmoglobin—26.25 per cent. (Sahli's hæmometer).

Leucocytes—295,000 per c.mm. The differential count gave:—

Polymorphonuclear neutrophiles - 1.5 per cent.

Neutrophile myelocytes - - 0.5 ,,

Lymphocytes - - 15.5 ,,

Large mononuclears - - 3.5 ,,

Megaloblasts and lymphoblasts - 79.0 ,,

It was then (September 29th) clear that we were dealing with a case of acute leukæmia, and the still rarer condition of leuco-sarcomatosis was unsuspected.

The patient got gradually worse, although the stomatitis healed up. The temperature was spiky, ranging between 100° and 104° F. The pulse varied from 100 to 140, and the respirations from 24 to 36 per minute. On October 3rd slight epistaxis occurred, but it stopped quickly. Death took place on October 5th.

The Wassermann reaction was performed by Professor E. J. McWeeney, and found to be negative (alcoholic normal heart-extract was used as antigen).

Autopsy.—On October 5th, twenty hours after death, a post-mortem examination was made. On external examination the only abnormality noted was the presence of a few petechiæ on the chest and upper part of the abdomen. Rigor mortis was well-marked. Thorax.—On removing the sternum a large, pale-pink mass, the size of a closed fist, was seen filling up the superior mediastinum. It was moulded on the pericardium, and the great vessels were surrounded by it. The trachea was embedded in its posterior wall. On section it was firm, with a few necrotic areas the size of a sixpenny piece. None of the usual thymic remnants were seen. The lungs were pale. No pleural adhesions were present. No evidence of tuberculosis was found in the lungs or bronchial glands. These latter were not enlarged. The heart showed fatty degeneration in the papillary muscle of the left ventricle. The cavities contained clots of the agonal type, but somewhat translucent. Abdomen.—The liver was considerably enlarged, and weighed 102 oz. It was pink in colour. and showed on section small grev areas the size of a pin's head, alternating with pink areas. The organ was moderately firm. Pseudo-melanosis was present. The mottled appearance was very striking. The spleen was enlarged, and weighed 15 oz. It was soft. Pseudo-melanosis was present. A few small, pale infarcts were noted, and macroscopically it showed little alteration from normal. There was no "hardbake ' appearance. The kidneys were pale-pink and very soft. They were normal in size. The capsules stripped easily. The cortex was normal in width. The mesenteric glands were enlarged and soft. Many were one inch in diameter. Some had hæmorrhages on the surface. The retroperitoneal glands presented similar appearances. The

stomach and pancreas showed nothing abnormal. The marrow of the shaft of the tibia was pink and fleshy. The distribution of the change was patchy. A culture made from the heart's blood at the time of autopsy was a pure culture of *B. coli*. The central nervous system was not examined.

Microscopical Anatomy.—Clot from 'heart.—This showed a network of fibrin entangling red and white cells. The former stained badly, and were often seen as shadows. The leucocytes were mostly large cells with vesicular nucleus, with a cystoplasm showing little tendency to stain with eosin, and from which granules were absent. In many of these cells the nucleus was broken up into 7 to 10 spherical, rather deeply-staining masses. Polymorphs and lymphocytes could also be seen.

The thoracic tumour showed cells like the main type in the blood-clot. They were mostly large, undifferentiated cells. in which granules could not be detected. Polymorphs and lymphocytes were scattered here and there through the tumour, the latter being mainly in evidence near the growing edge, as if the lymphoid tissue was being pushed aside. Here, too, the growth was seen invading the fatty areolar tissue of the mediastinum. No concentric corpuscles of Hassal were seen. The tissue was very vascular, showing numerous capillaries filled with red cells, leucocytes, or plugs of bacteria. The stroma was delicate, but many cells of fibroblastic type were present. The necrotic areas showed degenerated cells, debris, and cholesterin crystals. Staining failed to reveal tubercle bacilli. In many places groups of three or four small cells were seen, which gave the impression that they had just been formed, whilst occasionally a giant-cell of the Hodgkin type could be made out.

The spleen was less cellular than normal. Lymphocytes were by no means abundant, and the stroma was everywhere increased. Many of the nuclei of the cells stained very faintly. There was a moderate amount of hæmosiderin present. The organ appeared to be exhausted, and to have ceased active participation in the disease. An accessory spleen was found which resembled the normal organ more closely, but many of the cells in it corresponded to the predominant type in the blood.

The mesenteric glands resembled the thoracic tumour closely. Small "giant-cells" were occasionally seen, as

also were the production-centres described in the mediastinal growth. An occasional area of lymphoid tissue was seen. The growth here was invading the surrounding tissue as in the thorax.

The kidneys showed accumulations of cells of the type common in the tissues already described between the tubules and around the glomeruli. The cells appeared to be deposited here, but had little stroma and no special capillaries to depend on.

In the liver the association of portal vein, hepatic artery, and bile-duct in portal systems can hardly be made out. The portal zones of the lobules are occupied by new cells as in the kidney, and it was these areas which gave the organ the mottled appearance so striking to the naked eye. These cell-accumulations can only be regarded as metastatic deposits. They show many blood-vessels, stroma and fibroblasts, and the liver-cells of the portal zones have been largely replaced by them. Many of the double rows of cells variously regarded as newly-formed bile capillaries or regenerating or degenerating liver-cells could be made out.

The marrow of the shaft of the tibia showed cells of the same type as those in the blood—large undifferentiated cells usually without granules. These were the most numerous, and they gradually passed into neutrophile myelocytes. No eosinophile or basophile granules were seen. Some nucleated reds were seen—mainly megaloblasts.

The cells found in the blood-films were large, showing no granules, and with a faintly-staining nucleus. They gradually merged into cells corresponding to the neutrophile myelocyte on the one hand, and on the other into those of the large mononuclear type. They might be regarded as primitive marrow-cells and lymphoblasts and myeloblasts. They were very labile, and in some films quite a considerable number were broken by the pressure used in making the films. Even when the film was spread with cigarette-paper there still remained a large number of broken cells. The lymphocytes present were somewhat larger than the typical small lymphocyte.

Even after the autopsy and a careful study of the various organs the case presented difficulties. The glandular enlargement was not uniform. The bronchial group was ap-

parently unaffected, the inguinal groups were somewhat enlarged, the abdominal glands were much altered. The mediastinal tumour did not present the appearance of a bunch of malignant glands. There was no sign of matting together of individual masses of neoplasm such as is found in lympho-sarcoma. Finally, I came to the conclusion that the mass in question was a tumour of the thymus gland. Professor McWeeney then gave me Sternberg's paper (1) on diseases of the blood, in which he deals with such conditions as acute leukæmia, leuco-sarcomatosis, and lympho-sarcomatosis. According to Sternberg, leucosarcomatosis is a disease of the young, with a rapid onset, in which widespread ulceration of the mouth and pharvnx is almost constant. The blood shows a severe anamia with "blasts," the erythrocytes often falling below one million. A marked increase in the number of leucocytes often over 300,000 per c.mm.—with the presence of numerous labile embryonic marrow-cells. The temperature is high, and the cases invariably terminate fatally, usually from a terminal infection through the ulcers in the mouth. The presence of a tumour is detected at the post-mortem examination. It is frequently situated in the thymus gland, and shows primitive leucocytes. alone distinguishes the case from acute leukæmia. The hæmorrhagic diathesis is usually present, and in this respect only the case under discussion differs from Sternberg's description.

Warthin has recorded a case (2) occurring in a patient aged twenty-nine, in which there was a diffuse lymphadenoid sarcomatosis of the gastro-intestinal tract with metastasis in the lungs, heart, liver, kidneys, and bone-marrow. The leucocytes totalled 90,000 per c.mm., of which 86.6 per cent, were atypical mono- or poly-nuclears. The course was very acute and malignant with gastro-intestinal symptoms. The case was operated on for appendicitis. The nodules in the kidneys were as big as cherries. They were sharply outlined, and in the juice expressed from them mononuclear and eosinophile leuco-

cytes and nucleated erythrocytes were found. There was cloudy swelling of the kidney-tubules. Albumen was 0.25 per cent. The liver weighed 64 oz., and showed nodules varying from the size of a pinhead to that of a pea. The invasion here, as in the case recorded above, was along the connective tissue of Glisson's capsule.

We have here a condition suggesting that leukamia is of neoplastic origin. The growth in the thymus suggests that it is the primary seat of the trouble. The infiltration of the liver is undoubtedly a metastatic process. chloroma we have multiple tumours in the periosteum and marrow associated with a leukæmia which may show granular or non-granular cells. The series of diseases which such a condition recalls is interesting. We have the status lymphaticus with hyperplasia of the entire lymphoid tissue, but no special blood-changes; lympho-sarcoma, or, as Sternberg terms it, lympho-sarcomatosis, still without special alterations in the leucocytes or marrow: leuco-sarcomatosis, showing tumour formation and acute leukæmia, and embracing chloroma, with its multiple green tumours. Then comes acute leukæmia, without obvious tumour formation, chronic leukæmia, showing embryonic leucocytes of the granular or nongranular type predominating, and, finally, leucocytosis. These conditions pass gradually into one another, and vet the cases at each end of the series are widely separated. Who can explain why, in leuco-sarcomatosis, the tumours are sometimes multiple and pigmented, when at other times a single primary tumour devoid of pigment is found? Who can tell whether leuco-sarcomatosis or acute leukæmia is the more embryonic condition? What determines the type of cell in chronic leukæmia? These problems still await solution. I am personally inclined to the view that when the origin of tumours has been discovered it will be found that there is a common cause underlying leukamia and certain types of neoplasm—whether the substance be chemical or a living organism. In the meantime, it would be desirable that all patients showing ulceration of the mouth and pharynx should have their blood carefully examined so as to detect the condition in its early stage. We might then light upon the origin of the disease, and perhaps adopt a line of treatment which would prevent a fatal termination.

[The paper was illustrated with microphotographs by the Lumière and Paget processes.]

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ART. XIX.—The Relationship between Chorea and Rheumatism.^a By Arthur P. Draper, M.D., B.Ch., B.A.O., B.A. Univ. Dubl., St. Albans, Hertfordshire.

INTRODUCTION.

Before we enter into a consideration of the relationship which undoubtedly exists between the diseases chorea and rheumatism, it is necessary to have a clear definition of the terms, for in the whole range of medical terminology there is no such olla-podrida as chorea, which has served as a sort of nosological pot into which authors have east, indiscriminately, all affections characterised by irregular, purposeless movements.

The term chorea has been used to cover a multitude of affections, from the convulsive tic and habit spasm, so often confounded with chorea minor, to the pre- and post-hemiplegic disorders of motion. The same remarks apply to rheumatism.

The term rheumatism is rather loosely applied to a multitude of diseases, each of which should be regarded as a separate pathological entity.

Rheumatism per se is not a disease; it is a clinical manifestation of a variety of toxic infections. It has been defined as a constitutional disease characterised by

^{*} A Thesis read for the Degree of Doctor of Medicine in the University of Dublin, April, 1914.

inflammation of the connective tissue structure, especially in the muscles and joints.

In this paper we shall confine the term chorea to that described by Sydenham in his Schedula Monitoria (1686) and Processus Integri (1693), which contain brief but very accurate accounts of the affection as we now know it.

Sydenham's chorea is an acute disease of childhood, rarely of adults, characterised by irregular, involuntary movements, a variable amount of psychical disturbance, and associated very often with arthritis and endocarditis. The disease is usually regarded as a neurosis, but the clinical characters of the severer cases, and the frequent heart and joint implications, have suggested to many recent writers that it may be due to a specific poison.

When we speak of rheumatism, we refer to an acute condition of specific origin due to the *Diplococcus rheumaticus* of Poynton and Paine, and not to any rheumatoid arthritis or arthritis due to pyogenic organisms, or myalgia following a toxæmia, as the myalgia so often associated with influenza, &c.

Since the beginning of the nineteenth century it has been observed that there is some association between chorea and rheumatism. Bouteille gives, in his monograph, two observations of Stahl and two of Sauvages.

Bright, however, was the first to draw any real notice to the connection when he mentions, in the "Syllabus or Outlines of Lectures on the Practice of Medicine" published at Guy's Hospital in 1802, that rheumatism was distinctly recognised as one of the causes of chorea, and he says also in 1820 that "chorea sometimes alternates with rheumatism." Bouteille makes the rheumatic one of the minor sub-divisions of his deutero-pathic or secondary chorea; he lays no stress on it in connection with the essential or primary form. Copeland writes:—"The association of this disease with rheumatism has been observed by me on several occasions, and in nearly all there has been a marked disposition of the rheumatic

affection to recede from the joints or extremities, and attack the internal fibro-serous membranes, as those of the cerebro-spinal axis and the pericardium." J. C. Pritchard, of Bristol, reports several severe and fatal cases of chorea, and, speaking of one of them in which pericarditis was present, he says:—"The disease seemed to have arisen from the metastases of rheumatism."

It might be as well at this stage to quote a case which recently came under our notice, which illustrates typically the close relationship which the two diseases bear to each other.

A mother brought her son, aged nine, to us, complaining of pains of a dull aching character in his right shoulder and legs, which she alluded to as growing pains. On examination the boy had marked tenderness on pressure over the right scapula and right leg, with, however, no signs of any arthritis either in the upper or lower limb. There was no manifestation of any endocarditis, the heart sounds being quite normal, and the area of cardiac dulness was not increased.

There was no doubt that the boy was suffering from an attack of acute rheumatism, and was put on salicylate of sodium in 3-grain doses three times a day. In about three or four days his symptoms had quite subsided.

About a week later, however, the boy was brought back complaining of numbness down the whole of his right side, with loss of power in his right leg. As long as the boy's attention was fixed there was no sign of any involuntary movements, but the moment his attention lapsed there were typical choreiform movements to be seen of the right hand, very slight it is true, but still present; his tongue, when protruded, also showed slight involuntary choreiform movements. On examination there was a blowing systolic murmur to be heard at the apex, and conducted slightly towards the axilla. There was in this case no mistaking the diagnosis, the boy had Sydenham's chorea. He was put on arsenic in 2 minim doses three times a day, but his symptoms grew steadily worse, so much so that he could hardly articulate; he had difficulty in deglutition, and what was more striking was the fact that marked psychical changes were taking place. Whereas before the onset of the chorea the boy had been bright and intelligent, though of a somewhat neurotic temperament, he had now become listless and anergic, hardly ever speaking, and, when he did, constantly complained of the terrible dreams he had every night. Things went on from bad to worse, the boy would take hardly any food, chiefly due to the difficulty he experienced in deglutition.

We then recommended his parents to isolate him completely in a darkened room, and also increased the arsenic. From this time his condition steadily improved as regards his chorea and his cardiac signs, the heart resuming its normal state, without leaving any trace of a residual endocarditis. The boy had, however, become very anæmic, and had lost weight considerably; but he rapidly improved when put on iron in small doses, and is now in a perfectly normal state of health, save for some slight rheumatic pains occasionally, and that after looking at artificial light his vision becomes green.

The duration of the prechoreal rheumatism was roughly seven days, the interval between the clearing up of the rheumatism and the commencement of the chorea about four days, and the chorea itself about six weeks, making a total of in or about two months.

This case is very typical, and illustrates several points of extreme importance in the comparison of the two diseases.

In the first place, the question arises as regards the incidence of the rheumatism or rheumatic pains. These may pre-date, post-date, or be coincident with the chorea. As noticed by Sée and Roger, in a very large proportion of cases, the rheumatism precedes the chorea, which develops with its subsidence, or may not follow until convalescence has been well established. In other instances the chorea precedes the rheumatism. This, however, is rare. In the report of the British Medical Association Investigation Committee on Rheumatism, analysed by Whipman, chorea was found to have preceded rheumatism in less than 2 per cent. of the cases.

Then, again, as regards the age of the patient. There

is no doubt that age is a very important factor in considering the relations between the two diseases. Sir William Gowers, among his collection of cases, met with only one case under the age of nine years old, whereas between the ages of ten and fifteen there was a history of rheumatism in a quarter of all his cases.

Here we see the three ages:—(1) Before the age of nine, when chorea with rheumatism is rare; (2) between ten and fifteen, when the two diseases go hand in hand; and (3) over the age of fifteen, when rheumatism is frequent and chorea is rare.

The manifestations of rheumatism in childhood are extremely varied, and often so slight that they are readily overlooked, and very often take the form of a myalgia rather than a definite arthritis.

The next point of interest in the previous case is the onset of the endocarditis, if endocarditis it be; for, without doubt, in many cases the heart murmur heard in chorea is purely hæmic in origin, due to the debilitated state of the patient at the onset of the disease, especially where it has been preceded by a febrile state from acute rheumatism.

In acute rheumatism the percentage of cases which develop endocarditis is fifty, and in chorea it is about the same, if not higher.

Fagge found an attendant endocarditis in seventeen out of eighteen cases of chorea which manifested no rheumatic symptoms. Of course it is true that the rheumatic manifestations may be so slight as to be passed over by both parents and patients, or if they are noticed may be alluded to as growing pains.

As regards the pathology of the endocarditis, it is in nearly all cases of the simple or warty variety, as in rheumatic fever.

Of course there is no doubt that in some cases where a cardiac murmur is heard this is due not to a definite endocarditis, but is purely hæmic in origin, and leaves no sclerosis of the valves behind it when the general condition of the patient improves.

The question arises as to the possibility of the chorcic movements extending to the involuntary muscles.

The irregularity and rapid action of the heart, as well as the variability of the mitral systolic murmur, have been thought by some people to be due to disturbed rhythm in the ventricular contractions, and to choreic spasm of the papillary muscles, but of this there is no satisfactory evidence.

Mental Symptoms.—In most cases of chorea, psychical disturbance is nearly always present to a greater or less degree. In nearly all cases there seems to be a hereditary predisposition to the disease and the patients are of a neurotic temperament.

The most common mental change is the loss of concentrative power; the patient becomes listless and anergic, taking no interest in those things which had previous to the onset of the chorea usurped his whole attention. Hallucinations of sight and hearing are fairly common. Edes describes a case which developed acute melancholia, and acute mania may also supervene, but is very rare. The most serious of all psychical disturbances is a maniacal delirium, the so-called chorea insaniens. Whether there is a chronic form of insanity deserving the name of "folie choréique" is extremely doubtful. In nearly all cases the mental changes subside coincidently with the physical.

Cutaneous Symptoms.—In a good many cases of chorea skin affections are to be found, some of them doubtless due to the prolonged administration of arsenic, but others due to the disease itself.

Among the most interesting cutaneous manifestations of chorea are those associated with arthritis, which are very similar to those developing in so-called rheumatic purpura. The most common are those which take the form of multiple erythema, either an erythema nodosum or purpuric urticaria, or sometimes a simple purpura. Osler quotes a case of a girl, aged eight, who had an attack of chorea in 1885 and a second in 1886, the latter having been preceded by an attack of acute rheumatism.

The knees and ankles were swollen, and there were large purple blotches on the skin of the legs and of the arms.

Morbid Anatomy.—There are no constant lesions in fatal cases of chorea. In cases of long duration the body is much emaciated, but there are no external lesions except self-inflicted scratches and bruises.

Sturges and Raymond made a collection of 73 cases, of which 23 were males and 50 females; 15 occurred in children of 10 years and under; 17 between the ages of 11 and 15; between 16 and 20 there were 31; between 21 and 30 there were 6. In these cases there was a history of acute arthritis in 29; in 3 there had been sub-acute rheumatism. Recent endocarditis was present in 62 cases, or 85 per cent., and pericarditis in 19; in 2 pericarditis alone; in 2 chronic mitral endocarditis, and in one the heart was faulty; in all there were 66 with heart lesions, or 90.4 per cent.

Naturally, attention is first drawn to the condition of the central nervous system.

Dana has recorded 19 autopsies in which a careful microscopical examination has been carried out; of these 19, in 16 there was intense cerebral hyperæmia, peri-arterial exudations, erosions, areas of softening, minute hæmorrhages, and occasional emboli. The changes were most marked in the deeper part of the motor tract, particularly in the lenticular nuclei and optic thalami.

In No. 2 of Osler's fatal series of cases, in which the mitral endocarditis was very extensive, there was a spot of embolic softening the size of a cherry in the right lenticular nucleus. It was upon the presence of lesions of this kind that the embolic theory of the disease was suggested and supported by Kirkes and Broadbent. The theory was that the choreiform movements were caused by multiple emboli causing mechanical irritation in the cortex or basal ganglia.

In 1906 Gordon Holmes and Osler investigated three fatal cases of chorea, including one of chorea of preg-

nancy, and found the following constant changes in all the cases:—

- (1) Practically all the cortical cells were affected, being swollen and distended. The tigroid had partly disappeared, and the nuclei stained more deeply than usual.
- (2) There were also small areas of cortical softening, which Osler maintains are due to embolic plugging.
- (3) In some of the cells the nuclei were shrunken and deformed, with the outline of the cell bodies indistinct.

Bacteriology.—Attempts have for a long time back been made to isolate a specific organism from fatal cases of chorea, but without success. As far back as 1899 Westphal, Wassermann, and Malkof published the results of their examination on a fatal case of chorea and endocarditis in a girl. They isolated a minute diplococcus from the meninges, brain, and spinal cord. A culture was made, which, when injected into a series of 80 rabbits, caused poly-arthritis. They do not, however, mention whether any choreiform movements were noticed, and it seems highly probable that the arthritis was occasioned by the introduction of some pyogenic bacteria, possibly through some error in technique. Berkeley mentions in the Johns Hopkins Hospital Reports that cultures made from the blood in the left ventricle, from the vegetations on the mitral valve, and from the parotid gland of a fatal case of chorea, showed abundant growth of Staphylococcus pyogenes aureus. The same result was obtained by Triboulet in Paris in 1893 when endeavouring to prove that chorea was of infective origin. He found staphylococci in two fatal cases; in another case he found staphylococci in the blood during a febrile attack.

In the same year Pianese, in the Pathological Institute of Naples University, earried out the most exhaustive research on the subject. He claims to have isolated a bacillus from the nervous system of a choreic patient.

which he was able to cultivate successfully. Animals which he inoculated died with muscular twitching and convulsions, and from these animals the same bacillus could be obtained in pure cultures from the central nervous system.

In 1900 Pain and Osler isolated a micro-organism from a fatal case of rheumatism with endocarditis and pericarditis, and after intravenous inoculation of a rabbit, observed remarkable twitching. This micro-organism was very similar to that described by Wassermann in 1899. Since this time similar movements have been observed in rabbits by Bullin and Beattie, of Edinburgh, and more recently by Cole, who has noticed involuntary twitching following the injection of ordinary streptococci.

This last result seems to undo at one stroke the work of other investigators who claim to have isolated a specific organism, for similar results seem to be produced by ordinary pyogenic bacteria.

Osler amongst his writings on the subject states: "It cannot, however, be pretended that chorea has been reproduced, for in chorea the involvement of the higher nervous centres—the intellectual and the emotional—stamp it as a human disease." In other words, that it is a physical disease with psychical phenomena which are unable to be reproduced in the lower animals.

The same chaos surrounds the bacteriology of acute rheumatism and acute arthritis which we regard as one and the same thing, so much so indeed that even at the present time many people disbelieve in the microbic origin of the disease. But it is generally understood that acute rheumatism or rheumatic fever is caused by the bacillus described by Poynton and Paine.

In 1902 Poynton and Paine demonstrated that *Micrococcus rheumaticus* might produce malignant endocarditis.

In the same year Fritz Meyer published an extensive paper on the bacteriology of acute rheumatic fever arthritis. In this paper he contributes many interesting points to the scientific study of acute articular rheumatism. He found the diplococcus or micrococcus in cases of rheumatic tonsillitis, and by inoculation with it produced arthritis, endocarditis and pericarditis. In three rabbits out of 100 he noted peculiar twitching movements, which he believes to be an expression of chorea. He believes that the micrococcus has a special affinity for joints, and that if staphylococci and diplococci are injected the diplococci will be found in joints before the staphylococci, and have also a special affinity for the cardiac valves.

Triboulet, however, maintains that there is a simple articular rheumatism, non-microbic, and that the micrococcus causes the complications, leaving the joints sterile.

The question naturally arises in the consideration of the causation of rheumatism, why does not chorea occur in adults as a sequela or complication in adult rheumatism if the *Diplococcus rheumaticus* is the causal factor in both the infantile and adult forms? There is no doubt that the adult form has a greater affinity for joints, while the infantile generally attacks the connective tissue in the muscles, causing a myalgia; the endocarditis, however, occurs in the same proportion in both types.

Treatment.—The question of treatment is one of extreme importance. If chorea and rheumatism both have their origin from the same organism, why should they both yield to two such totally different drugs, each of which is almost a specific for its own disease—namely, salicylate of sodium for rheumatism and arsenic for chorea?

Dr. D. B. Lees urges that, since, in his estimation, chorea is really a brain manifestation of rheumatism—in other words, that the brain in chorea is actually infected with the *Diplococcus rheumaticus*—therefore the treatment which cures rheumatism should also cure chorea.

His treatment, therefore, is to give large and frequent doses of salicylate of sodium, increasing the dose daily, and he says he has noticed a marked improvement with each increase of dose. Of course the obvious danger attached to this mode of treatment is the risk of acid intoxication. He obviates this by (1) giving with it bicarbonate of sodium in sufficient quantities to render the urine alkaline—he gives double the quantity of salicylate of sodium for this purpose; (2) seeing that the bowels act well every day; (3) keeping a careful look out for any symptoms of salicylic poisoning, the most typical of these being the deep inspiration, or air-hunger, which is similar to and arises from the same cause as that of diabetes. The dosage he recommends for a child, aged from six to ten years, is: salicylate of sodium, grs. 10, with bicarbonate of sodium, grs. 20. After two or three days this should be raised to grs. 15 and grs. 30, respectively; and after an equal interval of time, to grs. 20 and 40. This should be given every two hours by day and every three by night.

He finds that the usual symptoms of salicylic poisoning in adults—namely, deafness and singing in the ears—are absent in children.

Now, this means of treatment may be all very well, but why should the risk of acidosis be engendered when the more certain and safer, if not so rapid, treatment by arsenic can be adopted? Moreover, if, as he maintains, chorea is really a rheumatic infection of the brain, why should it not yield to the smaller doses of salicylate of sodium which are sufficient to cope with rheumatic manifestations elsewhere?

Langmead has investigated this method of treatment, and has reported on a series of cases of acid intoxication from salicylate of sodium.

The urine of the patients contained acetone and diacetic acid. The main facts of his cases are as stated in the following page.

There is another mode of treatment which has lately come into vogue for the treatment of rheumatic infections, and incidentally of chorea. It is based upon the theory of Dr. A. F. Schafer, of Bakersfield, California, which is that all infections are really multiple infections. In other

words, that all diseases are caused by a mixed infection with a preponderance of the specific organism. As an illustration, attention may be drawn to the now commonly accepted idea that in pulmonary tuberculosis the greatest danger to the patient, much of the difficulty of treatment, and many of the most notable symptoms, such as loss of

Case	Age	Dose of Sod. Salicylate per 24 hrs.	Total quantity of S. S. before acidosis	Duration of Treatment	Sod.bicarb. before onset of symptoms
1	5	20 grs. 120 for 6 doses	grs. 1,400	10 weeks	none
2	7	60 grs.	,, 210	3 days	420
3	7	150 ,,	,, 400	3 ,.	300
4	6	60 ,	,, 240	4 ,,	120
5	7	240 ,,	,, 360	36 hours	480
6	10	60 ,,	,, 140	4 ,,	none
7	10	20 ,.	., 360	ō ,,	,,
8	8	160 ,,	., 580	ō .,	,,

weight, high temperature, purulent expectoration, destruction of tissue, &c., are due to the advent of a mixed infection. The treatment, therefore, which he has devised is the so-called "Phylacogen" treatment, which consists primarily of a mixed vaccine which is prepared from ten varieties of pathogenic bacteria—viz., Staphylococcus aureus and Staph, albus, Streptococcus pyogenes, Diplococcus pneumoniæ, &c.—and this polyvalent vaccine, or rather phylacogen, is modified by adding to it a preponderance of the specific organism for which the phylacogen is required. For instance, the rheumatic phylacogen consists of the polyvalent or mixed infection phylacogen + an increase in the quantity of the Diplococcus rheumaticus.

Through the courtesy of Messrs. Parke, Davis & Co., who

are exploiting this treatment, I have obtained the reports of some cases of chorea which have been treated by the rheumatic phylacogen in America; it has not been yet used in this country for the treatment of this disease. They report that out of nineteen cases of chorea which have been thus treated eighteen recovered; a few reports on these cases are worthy of note.

Case I.—G. M., a girl aged ten and a half years, was seen on May 29, 1912. She began two weeks ago to twitch and fidget. The tonsils were slightly enlarged, and the heart's action was irregular in force and rhythm, with a slight systolic murmur at the apex, which was not transmitted outward, and was not constant. She was given Fowler's solution with benefit for a while, when her nervousness became worse again about July 4th. So the use of rheumatic phylacogen was begun on July 9th, starting with 5 minims, increasing the dose 5 minims daily, omitting Sunday, until 50 minims were given at each dose. Her chorea gradually subsided and disappeared entirely. There was no evidence of rheumatism in this case, and no previous history of it.

Case II.—C. B., aged fourteen, schoolboy. Chorea diagnosticated. Admitted July 19, 1911. Five weeks before admission the patient had choreic movements. At the time of admission there was marked right hemichorea, aphasia, and a systolic murmur at the apex. Under treatment with Fowler's solution for twenty-eight days, alternating with bromides, the symptoms gradually improved and speech returned, then for several days there was no further improvement. On August 16th $2\frac{1}{2}$ ccs. of rheumatism phylacogen was administered subcutaneously, followed by headache. August 17th, $2\frac{1}{2}$ ccs.; headache; slight local pain; choreic movements less; patient more quiet. August 18th, $2\frac{1}{2}$ ccs.; headache; no twitchings. August 19th, 5 ccs.; headache and numbness of legs; twitching has almost entirely disappeared; murmur at apex much softer. Treatment discontinued.

Of course it must be remembered that these reports come from America, and must be treated as such, but at the same time there is no doubt that the phylacogen treatment rests on a sound basis, and that the time will come when the use of it will become general.

General Considerations.—After this conflicting evidence it is very hard to come to any conclusion regarding the relationship.

Several theories may be put forth which will fit in with the facts concerning the two diseases, but they are, after all, only theories, and must be treated as such.

If we consider rheumatism and chorea to be the same disease, how can we account for the fact that chorea may occur without rheumatism, and vice versa? Of course. there are the predisposing factors of general debility and overstrain, which undoubtedly account for certain cases of chorea which follow an attack of acute rheumatism. but how do we know that the chorea would not have occurred in any case. Then again, to revert to the question of treatment, if they are the same disease why do they not yield to the same drug? Of course it is possible that if the Diplococcus rheumaticus attacks the central nervous system it may get locked up, and may act by virtue of its toxins until liberated by the action of arsenic. In other words, it may be a parallel case to specific disease. where, as it has been proved, the Spirochæte pallida may lie latent in the central nervous system impervious to the action of mercury, until liberated by the action of iodide of potassium.

There seems to be a great similarity between specific disease and rheumatic-chorea, if we may use the term, both in the course of the diseases and the treatment by their respective drugs—viz., mercury and iodide of potassium, and salicylate of sodium and arsenic.

Of course one may maintain that it is impossible to get a direct infection of the central nervous system in syphilis without a local lesion, whereas in rheumatic-chorea, chorea may manifest itself alone without any rheumatic symptoms. Osler, however, believes that chorea is an infection of the central nervous system by the *Bacillus* rheumaticus, which can exist alone without any definite generalised rheumatic symptoms, the organism gaining entry by the tonsil, it may exist alone as a definite arthritis, or it may start as an arthritis and extend to the central nervous system, or more rarely, start as in the central nervous system and extend to the joints.

In a letter received from F. J. Poynton, March 9, 1914, he states the following:—"The Strepto-diplococcus rheumaticus has been isolated from chorea cases from the cerebro-spinal fluid during life. It has also been isolated by Dr. Paine from the nervous tissue after death. It has been demonstrated in the pia and brain by Paine, myself and Gordon Holmes. I look upon the condition (chorea) as a rheumatic nerve system infection—a mild leptomeningitis in many cases."

Now, this evidence is conclusive in proving that chorea and rheumatism both owe their origin to the Bacillus rheumaticus of Paynton and Paine; but the question arises as to why every case of acute rheumatism does not terminate in chorea—in other words, what factors in rheumatic patients pre-dispose to chorea. If we consider the ætiology of chorea there does not seem much doubt as to what these factors are. The most important among them is age. We see that amongst all rheumatic patients there is a tremendous preponderance of chorea during the second and third hemi-decades, that time during which the brain is subjected to the greatest strain, before it has sufficiently developed to cope with it. Malnutrition also plays a large part as a predisposing factor. This also is proved by statistics, for though chorea may and does occur among all classes and stations of life, yet the percentage is far higher among the lower and working classes; and lastly, a neurotic temperament combined with overwork.

To sum up, we consider chorea to be an infection of the central nervous system by the *Micrococcus rheumaticus*,

which may be secondary to an active arthritis infection by the same organism, or which may exist alone.

Sex	Age	Rheu- matism	Endo- carditis	Pericarditis,	Remarks	Reporter
М.	17	Rh.	Mitral	-	First attack	S. Mackenzie, Trans. Int. Med., 1881
М.	18	Rh. acute; chorea followed	Mitral	Spleen en- larged	Wetting	Maixner, 1882
F.	11	Rh. pains	Mitral and aortic	Old peri- carditis	Third attack	Morrel Lavetter. 1884
F.	10	At 5 chorea and Rh.	Mitral tri- cuspid and aortic		Skin eruption; R. pains at 2nd attack	Oxley. 1886. Lancet
F.	9	No Rh.	Mitral	. <u> </u>	First attack T. 101°; delirium; death in 130	Cook. 1888. B. M. J.

ASTHMA IN INFANTS.

When taken in the beginning of the attack, supply an abundance of fresh air; apply sinapisms to the front and back of the chest, or dry-cup; give, every two hours, in a teaspoonful of water one-tenth of a grain of Dover's powder with 8 grains of sugar of milk. Give 5 centigrammes of Dover's powder a day for each year of the child's age. Or give in a teaspoonful of sugared water, five or ten drops, three or four times a day of the following mixture:—tincture of aconite, of belladonna, of drosera, of grindelia, of lobelia, of each 1 gramme; "tinetura thebaica" (tincture of extract of opium, French Codex), ½ gramme. Sometimes a subcutaneous injection of morphine, 2 to 5 milligrammes, according to age, may be necessary.—La Quinzaine Thérapeutique, March 10th, 1914.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Carbon Dioxide Snow: its Therapeutic Uses (Methods of Collection and Application). By J. Hall-Edwards, L.R.C.P., F.R.S. (Edin.), Hon. F.R.P.S.; Senior Officer in Charge of the X-ray Department at the General Hospital, Birmingham, &c., &c. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd. 1913. Cr. 8vo. Pp. xv + 78.

To write a useful book the author should be an enthusiast, but especially a master of his subject. Mr. Hall-Edwards fulfils these two conditions in regard to the therapeutic uses of carbon dioxide snow.

That he is enthusiastic is manifest from the way in which he writes of solid carbon dioxide as a therapeutic agent.

"During the last three or four years it has firmly

established itself as a most valuable addition to our list of physical therapeutic agents, and in the hands of the general practitioner and dermatologist, it has secured an amount of success which can only be compared with the results achieved from the use of radium and x-rays. On account of the readiness with which it can be obtained, the simplicity and ease of its application, and the perfection of its results, it has won for itself a well-deserved popularity. As a stimulating and cauterising agent, it is

But Mr. Hall-Edwards is a capable inventor as well as a physician. This is evident from the account given of the apparatus he has designed for collecting carbon dioxide snow and for applying it therapeutically in an efficient and

superior in some respects to radium, over which it has a distinct advantage, on account of the slight cost in-

volved." (Pages 1 and 2.)

satisfactory manner. It seems that Messrs. Philip Harris & Co., of Birmingham, are the sole manufacturers of the author's apparatus.

Carbon dioxide snow may be applied in solution to certain inaccessible parts, such as the interior of the nose and other cavities. For this improvement in technique the author expresses indebtedness to a valuable suggestion made by Mr. Knowsley Sibley in the *Practitioner* for July, 1912. With ether and absolute alcohol the snow forms a perfect mixture which can be used as a therapeutic agent. This liquid can be applied on a camel's hair brush or with a swab of cotton wool fixed on a wooden or other non-conducting holder.

In successive sections Mr. Hall-Edwards describes the after-treatment of lesions produced by freezing, the physiological and therapeutic effects of freezing, the microscopic changes brought about in tissues by freezing, and the use of carbon dioxide snow as a local anæsthetic. Then follows an account of the application of the method in various diseases and diseased conditions.

The text is illustrated by twenty-one figures. Of these, the least satisfactory are four photomicrographs of vertical sections of the skin of a guinea-pig before and after the application of carbon dioxide snow.

There are very few errata in the text, but the minus sign has been omitted in connection with centigrade temperatures given at pages 8 and 9. This error would be avoided by counting temperatures from absolute zero—that is, minus 273° C., as has become customary in scientific writings.

The Practical Medicine Series, 1913. Vol. I. General Medicine, 8vo., pp. 404. Vol. VI. General Medicine, 8vo., pp. 356. Chicago: The Year Book Publishers. 1913.

These two volumes form part of a series of ten issued at intervals of about a month, and dealing with the most recent developments of Medicine and Surgery during the preceding year. The numbers before us have been edited by Professors Billings and Salisbury of Chicago, and cover the greater part of the field of general medicine, with the exception of the respiratory and nervous systems.

The publishers' note informs us that the series is intended primarily for the general practitioner, but that the arrangement in several volumes enables those interested in special subjects to buy only the parts they desire.

It is unnecessary to point out the value of such a résumé as this at the present time when information in all branches of our work is accumulating so rapidly that it is impossible to keep abreast of even a small section of it.

Fortunately we possess a number of similar publications the merit of which has been proved, but we venture to think that this work more than holds its own in comparison. It is an extraordinary store of fresh and minute instruction.

The volumes are of conveniently small size, though each contains upwards of 350 pages, and the illustrations, though not numerous, are surprisingly good.

For the convenience of those interested in particular subjects, we may say that Vol. I. deals with tuberculosis and pneumonia and general diseases of the circulatory system and blood, ductless glands, metabolism, and the kidneys; while Vol. VI. includes infectious diseases in general and the affections of the alimentary tract and large digestive glands.

Diet in Health and Disease. By Julius Friedenwald, M.D., and John Ruhräh, M.D. Fourth Edition. Philadelphia and London: W. B. Saunders Company. 1913. Demy 8vo. Pp. 857.

WE are glad to receive the fourth edition of this well-known American text-book on dietetics, which we regard as one of the best of its class. In this edition much new matter has been added in conformity with the progress of knowledge of the physiology of digestion and metabolism.

The main additions comprise new chapters on digestion, diet in fevers, gout and diabetes (the last two of which are excellent), a re-arrangement of the section dealing with metabolism, and many new tables and diet lists.

The scope of the work is summed up in the preface as follows:—"The practitioner wants to know how much food to give and what kind, and he wants to be told how to be able to prescribe a diet as simply as he would a drug." This expresses exactly the feeling of the majority of younger practitioners at least who, if they base their desire for this information on no higher level, have seen what success attends the practice of those who have made a study of the art of dietetics.

We have no hesitation in saying that this object has been fully attained within the limits of a volume which, though large, is not so bulky as some we have met dealing with the same subject. The literary style and the general production make the perusal of the book a pleasure, and we cordially recommend it to all who find difficulty in answering the invariable question: "What may he have to eat, doctor?"

Cancer of the Breast. By Charles Barrett Lockwood, F.R.C.S. (Eng.); Consulting Surgeon to St. Bartholomew's Hospital, &c., &c. London: Oxford University Press. 1913. Pp. ix +234.

THE object of this little volume is to give the author's own experience of operations for cancer of the breast. At the same time he includes briefly his experience of operations for innocent tumours of the breast, because they are inseparable from the cancers.

Many important practical points from a diagnostic point of view are brought out in the author's description and comments upon the individual cases. Not the least of these is the important relation of inflammation of a chronic type to the development of cancer.

As regards the ultimate result of operation for mammary cancer, the author's experience merely bears out what has been generally held and what has been the experience of most operating surgeons—viz., that if the complete operation is performed efficiently while the cancer is still confined to the breast (microscopic examination of the axillary lymph glands showing them to be free from infection) the disease can be said to be cured, whereas if the glands in the axilla are infected, even microscopically—that is, not extensively—the disease will recur in fully 80 per cent. of the cases. The book is well worthy of reading as embodying the practical experience and observation of an eminently sound surgeon.

RECENT WORKS ON SURGERY.

- 1. A Manual of Surgical Treatment. By SIR W. WATSON CHEYNE, Bart., C.B., D.Sc., LL.D., F.R.C.S., F.R.S., Hon. Surgeon to H.M. The King, Senior Surgeon to King's College Hospital; and F. F. BURGHARD, M.S. (Lond.), F.R.C.S., Surgeon to King's College Hospital and Consulting Surgeon to the Children's Hospital, Paddington Green. New Edition entirely revised and largely re-written with the assistance of T. P. Legg, M.S. (Lond.), F.R.C.S., Surgeon to the Royal Free Hospital, Assistant Surgeon to King's College Hospital; and Arthur Edmunds, M.S. (Lond.), F.R.C.S., Surgeon to the Great Northern Central Hospital, Assistant Surgeon to King's College Hospital. In five Volumes. Vol. V. London: Longmans, Green & Co. 1913. Pp. xxviii + 619.
- 2. Surgery: its Principles and Practice. By Various Authors. Edited by William Williams Keen, M.D., LL.D., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Vol. VI. With 519 Illustrations, 22 of them in colours. Philadelphia and London W. B. Saunders Company. 1913. Pp. 1177.
- 3. Treatment after Operations. By WILLIAM TURNER, M.S., F.R.C.S., Senior Surgeon to the "Dreadnought"

Seamen's Hospital, Greenwich, Lecturer on Clinical Surgery London School of Clinical Medicine (Post-Graduate), &c., &c.; and E. Rock Carling, B.S., F.R.C.S., Surgeon to the "Dreadnought" Seamen's Hospital, Greenwich, Senior Teacher of Operative Surgery London School of Clinical Medicine (Post-Graduate), Surgeon (in Charge of Out-patients) Westminster Hospital, &c. With a Chapter on the Eye, by L. V. Cargill, F.R.C.S., Senior Ophthalmic Surgeon and Lecturer in Ophthalmology King's College Hospital, Ophthalmic Surgeon "Dreadnought" Hospital, &c., &c. London: University of London Press, Ltd. 1912. Pp. 247.

- 4. Manual of Operative Surgery. By John Fairbairn Binne, A.M., C.M. (Aberdeen); Surgeon to the General Hospital, Kansas City, Mo.; Fellow of the American Surgical Association; Membre de la Société Internationale de Chirurgie. Sixth Edition, revised and enlarged. With 1,438 Illustrations, a number of which are printed in colours. London: H. K. Lewis. 1913. Pp. xiv+1251.
- 1. The first volume before us completes the revised edition of this fine work.

The subject-matter dealt with in the fifth volume of Watson Cheyne's Manual of Surgical Treatment is that of the surgical affections of the pancreas; liver and bile passages; the spleen; the neck, including the thyroid gland, pharynx and air passages; the breast; the thorax and its contents: the genito-urinary organs and operations on the female genital organs which may be found necessary in the course of an ordinary laparotomy.

This work is so well-known that it would be superfluous for us to do more than indicate to our readers the completion of its revision. The work of revision has been accomplished most thoroughly and satisfactorily. Everything new which has been found by the authors to be worthy of recommendation has been incorporated. We have nothing but praise for this treatise, or as it is modestly entitled "Manual of Surgical Treatment." It should be possessed by every surgeon.

- 2. The second volume before us is a supplementary volume intended to bring the subject-matter of the preceding five volumes up-to-date. This is an example of what a great work such as Keen's Surgery ought to be. We hope that, as time passes by and fresh additions are made to our knowledge, similar volumes will be issued so as to bring the work up-to-date and thus obviate the expense of the purchase of new editions of the entire work. volume will be heartily welcomed by those who purchased the original five volumes. The expense of purchasing fresh editions of large works such as Keen's Surgery acts as a deterrent to those who would otherwise desire to possess the work. Criticism is unnecessary. Every section of the work has been thoroughly brought up-todate in this volume. We have nothing but praise for the way in which the work has been done, and we heartily congratulate the distinguished editor and the publishers alike.
- 3. This little manual is intended to supply the general practitioner with a convenient and readily accessible guide to the after-treatment of patients after operations. It is well illustrated and eminently practical, and well fulfils the conditions for which it is written. We can recommend it as a safe and reliable guide to the general practitioner.
- 4. The fact that Mr. Binnie's manual has now reached its sixth edition in but a short space of time is sufficient indication that the author's objects in first producing the work and subsequently extending it, as has been done in recent editions, have been fulfilled.

It is a work which we have always held in the highest esteem since it first appeared in a very limited form, and in our review of it then we expressed the hope that the author would subsequently see his way to enlarge and extend its scope. This he has long since done. The volume before us has been thoroughly revised and in places re-written. The illustrations are numerous and all that could be desired

We congratulate the author upon the success attending his labours.

Walt Whitman's Anomaly. By W. C. RIVERS. London: George Allen & Co., Ltd. 1913. F'cap 8vo. Pp. 70.

THE publication of a volume such as the booklet now before us involves the re-presentation of one of the characteristic features of our twentieth century civilisation, as well as that of one of the primordial items of moral pathology, the germs of which which would appear to have cleaved to human flesh down through all the successive generations of the descendants of the Exiles of Eden.

It is surely humiliating to the true philanthropist to have continuous evidence placed before him of the fact that the unspeakable appetites and practices which were so happily unknown, even by hearsay, in Lemuel Gulliver's ideal community of Houyhnhnms, while they had been answerable for the fiery conclusion of the existence of the Cities of the Plain—and, in modified form, for the production of the material of the "evil report" of which the communication led to the sale of Joseph into Egypt by his brethren—still continue to disgrace our Western civilisation and furnish gravely substantial grounds for suspicion of the hopelessness of the efforts which are always being made for the moral regeneration of the human race.

Although the theory and practice of homo-sexuality have never been so thoroughly epidemic in any of our North-Western communities as in Ancient Greece and in modern Persia—and, to a very large extent, in tropical regions generally—they have manifested signs and symptoms of a certain degree of endemicity in all climates and countries. The horrible fact is always contemporaneous: a certain proportion of every generation of humanity revels in practices distinctive of a moral standard to which brutes have never descended. And we very much fear that the

process of catering for the morbid curiosity of the average voter—who is now always educated, and (of course) studies his halfpenny paper on all subjects of mental enlightenment—is very closely dependent for its suggestion and inspiration on the current universality of education, and the moral intelligence which is supposed to be thereunto attached by an inevitable affinity of relationship and sympathy.

One of the historic features of this deplorable specimen of physico-pathological ethics and æsthetics is that the to the normal individual—unspeakable repulsiveness of the conception and realisation of homo-sexuality has never proved in biographical fact to be incompatible with the very highest intellectual development: or with the successful culture of the subtlest and sublimest philosophy, of the most courtly politeness, the most graceful movements and pose, the most imperial dignity of personal bearing, and the most refined æsthetic tastes (!). Such is human inconsistency. The names of Socrates and Plato, of the pagan Publius Vergilius Maro and the poetico-theological Archbishop Giovanni de la Casa, of the enthusiatic Sodoma and "the divinely inspired" Michelangelo, may be said to counterbalance the less conspicuously decorated ones of the Roman Emperors Hadrian and Commodus, and of the decidedly unprepossessing British monarchs, the second Edward and the first James.

As there is so much human interest, of the very highest order, too, permanently associated with tastes and practice so loathsome—indeed, so utterly incomprehensible—to the normal man, there is good reason why the busy, intelligent man of the world should know something of the facts associated with their existence; while there is an increasingly stringent necessity for the would-be expert in pathological psychology to make himself as fully as possible acquainted with all available data that can be utilised in illuminating the subject. He must, of course, suffer some moral and æsthetic discomfort in the process—rather comparable to the physical discomfort necessarily experienced by the chemist while making himself familiar with the molecular structure of various foul gases. The only moral claim to tolerance of the presence of those vile "freaks of nature" is the optimistic one conveyed by our author, that: "Inverts act as interpreters of one sex to the other." And the only physical explanation which contains even a grain of rigidly scientific plausibility, is that (not quoted in the present volume) which seems to have been countenanced by Mantegazza: an anatomically erroneous distribution of the principal number of the nerve-fibres radiating from the genital centre in the lower part of the spinal cord—to the mucous membrane of the inferior segment of the alimentary canal, instead of to that of the neighbouring genito-urinary tract and surrounding tissues.

Guy's Hospital Reports. Edited by F. J. STEWARD, M.S., and HERBERT FRENCH, M.D. Volume LXVII. Being Volume LII. of the Third Series. London: J. & A. Churchill, Great Marlborough Street. 1913. Demy 8vo. Pp. xxxix + 356.

The most interesting paper in this volume of Guy's Hospital Reports to our mind is one entitled "A Case of Parathyroid Insufficiency." The report is by Dr. Arthur Hertz, and relates the story of a man who had a large goître removed in 1908. The patient remained well until 1910, and then quite suddenly became depressed, nervous and restless; he developed tremors, lost weight rapidly, and had some dysphagia; in addition his pulse was rapid, he became impotent, and had three to four large motions daily. After other treatment had failed he was put on 1000 ft gramme dried ox parathyroid daily, and at once began to improve, and in a few months he was practically well.

Numerous other interesting and more lengthy communications are to be noted. Dr. Wilson contributes an elaborate but not altogether convincing study of parasyphilis of the nervous system, in which he endeavours to prove that progressive muscular atrophy, primary lateral sclerosis, and primary optic atrophy are syphilitic in origin. A careful review of our knowledge

of creatine and creatinine is contributed by Poulson, and is well worthy of study. Hertz continues in this number his series of Neurological Studies, and a careful statistical paper on Carcinoma of the Gall Bladder associated with Gall Stones is contributed by Fawcett and Rippman. Last in number in the volume, but by no means least in interest, is a "List of Books by Guy's Men in the Wills Library," compiled by W. Wale. This list will be read with pride by many old Guy's men we feel sure, and to the medical historian should prove of value.

The volume as a whole is well worthy of its place along with its predecessors.

Diet Lists of the Presbyterian Hospital, New York City.

Compiled with Notes by Herbert S. Carter, A.M.,
M.D.; Consulting Physician to the Lincoln Hospital;
Associate in Medicine at Columbia University; and
Assisting-Visiting Physician to the Presbyterian Hospital, New York City. Philadelphia and London: W. B.
Saunders Company. 1913. Pp. vii + 129.

Dr. Herbert S. Carter's "Diet Lists of the Presbyterian Hospital, New York," is a very useful monograph on the dietary of the sick. He treats of typhoid diets, salt free diets, bovine free diets, gastric diets, diabetic diets, convalescent diets, and so forth. The author has done everything to meet the scientific requirements in dietary of the physician of to-day. We have tables of food values and of standard proportions and of chemical proportions. Indeed the calculations and lists and scales become puzzling and by their numbers and fulness defeat their object. Thus on page 49 we find the recapitulation of the Lenhartz diet, printed in small block type: its very appearance deters. In a large well-equipped, richly endowed hospital, or in the mansion of a millionaire, the dietaries laid down, may be obtainable, but no physician doing a general practice may hope ever to secure such desirable dietary for his patient. All the same the book plays a useful part in impressing on the physician the importance of diets in disease and by giving a good general idea of the value of different foods and how they should be prepared for the patient.

The First Annual Report of the Collis P. Huntington Memorial Hospital for Cancer Research, 1912–1913. Cancer Commission of Harvard University, Boston, Massachusetts, U.S.A. Pp. 44.

THE establishment of this hospital was made possible by the generosity of the late Caroline Brewer Croft, supplemented by a liberal gift of Mrs. Collis P. Huntington; and when the scheme took shape many donors helped forward the good work. The primary object of the institution is the acquiring and distribution of the knowledge of the nature of cancer and its correlated pathological growths; and also the therapeusis of the diseases. As yet the able staff of biologists, pathologists and physicians have not had time to do more than organise their plans for carrying on their duties and tentatively caring for a comparatively few out-door patients and some indoor ones. Special study is given to the question of the heredity of cancer, and a sufficient space for breeding large numbers of mice is urgently required. Bio-physics is in charge of Dr. William Dunne, whose name is honourably known in this most recent advance in Medicine. The Institution has a large field of usefulness before it. Cancer has from the dawn of civilisation been the opprobrium of Medicine and the paradise of quacks, and we heartily welcome the efforts of one and all of those who assist us to cast off the opprobrium and clothe us with light.

The Madras Medical Journal. Edited by T. K. Menon, M.B. Volume I. Nos. 1 and 2. 1914.

We have received a copy of the first number of the Madras Medical Journal. Its get-up bespeaks a verdict in its favour; of small quarto size, double column and well printed in clean well-set bourgeois. The first article is

by Surgeon Mallayo, on salpingo-appendicitis, and is the result of his experience with 150 abdominal sections performed during 1913, of which seventeen turned out to be cases of salpingo-appendicitis. And we may just remark that in one and all of these cases chloroformisation was pushed to the extreme depth of deep stertorous breathing without producing any unpleasant effect, although the operations occupied an unusually long time, as measured by ordinary cases. Hypodermics of morphine have been discontinued as adjuncts to chloroformisation in Surgeon Mallavo's clinic. Dr. Ramamurti gives an interesting summary of anatomical anomalies found by him in the Madras Medical College. As we read such articles we feel sorry that Todd's great Encyclopædia of Anatomy seems to be unknown to modern anatomists. Some other more local articles fill the number.

The journal deserves success, and we sincerely wish it may come.

Diagnosis of the Malignant Tumours of the Abdominal Viscera. By Professor Rudolph Schmidt, Professor of Medicine in the University of Innsbrück. Authorised English Version. By Joseph Burke, Sc.D., M.D. Buffalo, N.Y.; Attending Surgeon, Buffalo Hospital of the Sisters of Charity, &c. London: William Heinemann (Rebman, Ltd.). No date. Imperial 8vo. Pp. xiii + 361.

This work is one which is evidently the outcome of close observation and careful study. The result is a book which requires very attentive and close reading. The translator has perhaps paid too much attention to a literal translation, so that often paragraphs have to be re-read before their meaning becomes clear.

The treatise on the whole is one well worth reading, more particularly as in it will be found many points which are brought forward as personal observations, and on which much stress is not laid in the average text-book. Such are—the great importance of the examination of the fæces in suspected ulceration of the intestinal tract, the

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author's views on the assistance of radiography, the different types of patients who suffer from gastric cancer, &c.

In part (! a most valuable list of cases and of observations thereon are to be found, together with the *post*mortem findings.

We can confidently recommend the work, not for its literary, but for its practical value, to all surgeons and physicians who wish to improve their clinical knowledge, and more especially to those who have to work without the immediate aid of radiologists and pathologists.

A Synopsis of Surgery. By Ernest W. Hay Groves, M.S., M.D., B.Sc. (Lond.), F.R.C.S. (Eng.); Surgeon to the Bristol General Hospital; Consulting Surgeon to the Crossham Hospital; Lecturer on Surgery at Bristol University. Fourth Edition. Revised and Illustrated. Bristol: John Wright & Sons, Ltd. 1914. Cr. 8vo. Pp. xi + 599.

The fact that a fourth edition of this work has been called for proves its popularity.

As a synopsis it is very clear and very good, perhaps there is too much in it, certainly there is more than any ordinary student could assimilate, and yet it is difficult to say what could be left out. There is an erratum, which calls for alteration—viz., the word "fractures" at the top of page 204.

Any student who has had a thorough course of practical work will find all he wants, as a "brush up," for any examination in this "Synopsis of Surgery."

Biology: General and Medical. By Joseph McFarland, M.D. With 160 Illustrations. Second Edition. Philadelphia and London: W. B. Saunders Company. 1913. 8vo. Pp. 457.

An excellent introduction to the study of "living substance," tracing it from its probable beginnings, through its many differentiations, to its highest developments.

The author has dealt with the subject on broad, general lines, omitting the "Types" so useful to students and so disconcerting to readers, so that his book will be found useful and interesting by medical men and the general public interested in science.

Blood-relationship, infection, immunity, inheritance, mutilation, regeneration, and grafting are some of the subjects of present-day interest which are treated much more fully by the author than is usual in similar volumes.

The chapter on infection and immunity, with its clear, historical sketch and well-balanced judgments, will be found of special value by medical readers who have been for some years separated from laboratory work.

The omission of Koch's name is a flaw, but English workers get a fair share of praise.

Man's Miracle: the Story of Helen Keller and her European Sisters. From the French of Gérard Harry, with a Foreword by Georgette Leblanc Maeterlinck. Illustrated. London: William Heinemann. No date. 8vo. Pp. v + 197.

The volume before us is surely one which deserves the best attention of every seeker after truth, and more especially of the philosophic medical inquirer. Endless intellectual vistas are here opened up, the still unattainable outstretches of which will be variously furnished by studious readers, according to the quantity and quality of the rays of the search-light of illuminating knowledge that they are able to direct towards, and focus upon, its dark and still unmeasured and unmapped areas. What the author has proposed to himself is: "to indicate the multitude of ideas, hopes, conjectures and doubts-suggested by this new Helen, as beautiful mentally, as was she of the Hiad in outward appearance." The task is surely one worthy of the most brilliant intellectual effort, and of the most exalted enthusiasm. Its subject extracted from Mark Twain—whom some of us have always been weak enough to regard as one of the most profound philosophic observers of recorded time—the very characteristic remark: "The nineteenth century has produced two exceptional individuals—Napoleon and Helen Keller"; and from an English traveller, Mr. J. Hodder Williams, a correspondingly appreciative one: "The United States possesses two of the world's wonders—Helen Keller and the Falls of Niagara." And one of our author's conclusions, after profound and exhaustive examination of the data furnished by this investigation, is the highly optimistic one that: "There is no limit set to our perfectibility, since from such a human zero, such a sum of knowledge, emotion and vitality has been made."

A curious compound item of statistical information is placed before the reader at an early stage, which could be used with probably considerable ad captandum effect on the suffragette platform. For we learn that those cases of "triple infirmity" (deaf. dumb and blind) are more frequent in women than in men, and that specimens of the latter moiety of the human race, "when so afflicted, are more rebellious (this is a fresh mystery to fathom) than the feminine element, towards efforts for awakening their dormant faculties." Humiliating testimony—to the illiberal instinct of the mass of the traditional "lords of creation." The observation reminded us of one made by the late eminent Dublin physician, Sir Dominic Corrigan, in a travel volume produced in the evening of his life: "I have never met with a stupid woman." (And this latter observer was no believer in woman's capacity for organisation or leadership, although he recognised her almost invariable impressionability.)

At the age of nineteen months, as we here learn, Helen Keller "was a perfectly sound, healthy baby. Then came a sudden and terrible accident. She was attacked by a cerebral and stomachic congestion, and some weeks later she recovered bodily health, but was left, as if by the hands of an executioner, deprived of sight, hearing and speech; a creature inferior to the lowest and most helpless animal." The diagnosis here presented of the clinical condition which eventuated in a sequel so deplorably calamitous at first view, is unquestionably a hazy one!

We are not in a position to say whether a more definite one has ever been suggested, but there remains nevertheless no doubt whatever on our own mind that the nosological entity present was one of cerebro-spinal meningitis. patchy arrangement which is so very usually affected by this disease in its distribution readily accounts for thevery localised—lesions which involved the nerves of the special-sense organs. They also enable us to answeror rather account for the condition of things which suggested to the author to ask—this question: "Are the intelligence, consciousness and faculty of affection already formed in a child of nineteen months?" Of course, the answer—not exactly a direct one, but we will guarantee its scientific soundness—is supplied in the assuredly veritable statement that the patchy invasion of Helen Keller's lepto-meningitis must have "passed over" the cortical areas which preside over "the intelligence, consciousness and faculty of affection;" and thus permitted them to pass on, without even temporary interference, through the subsequent stages of the growth development of their normal evolution.

The discussion of the multiplex problem here presented to the curiosity of the studious and philosophical can be "produced in any given direction," even to infinity. So we must conclude, within reasonable limits of time and space, by reminding inquiring readers of the division of the senses which found favourable recognition in the palmy days of scholasticism. They were nine in numberso far corresponding with the angelic hierarchy—four internal: memory; cogitation; imagination; common sense: and five external: those which are still discussed in our text-books of physiology. The nine were regulated by a trinity of intellectual powers: memory, mind and will—one of which is thus intermediary or intercessory. Our author's metaphysics are more modernistic and amateurish; his pathology and physics have a correlated flavour. But the questions which he tries, or does not try, or tries and definitely fails, to answer are inevitably of profound interest.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Walter G. Smith, M.D., F.R.C.P.I. General Secretary—J. A. Scott, M.D., F.R.C.S.I.

SECTION OF OBSTETRICS.

President—M. J. Gibson, M.D. Sectional Secretary—Gibbon FitzGibbon, M.D.

Friday, March 6, 1914.

THE PRESIDENT in the Chair.

Exhibits.

Fibro-Myoma presenting unusual features.

Dr. Alfred Smith said this specimen was specially interesting to those who operate. The patient consulted him for painful tumour in the lower abdomen, and on examination it was recognised to be a fibro-myoma. The patient was aged thirty-five, and complained chiefly of the painful tumour. On opening the abdomen difficulty was experienced owing to adhesions between the tumour and the abdominal walls, and it was necessary to open higher up. It was then found that there was a coil of small intestine attached to the top of the tumour. Peculiar peritoneal folds were found hanging from the tumour simulating intestine. He was not in a position to determine how these folds were formed in this type of tumour.

(1) Combined Intra- and Extra-Uterine Pregnancy.

THE PRESIDENT said the patient J. B., aged thirty-six, had been married fourteen years, had had seven children and two

abortions. The youngest child aged three years. She aborted at the fourth month in September, 1912, and again at the sixth month in August, 1913. She had been seen on the 26th of November, 1913, when she stated that she had not menstruated since the 17th of September, 1913. She complained of pain in her right side low in the abdomen, and extending to her back. This pain had begun about ten days previously. and had not been severe. There was no bleeding. Examination revealed an enlarged, softened uterus, acutely anteflexed. At the right side of it a tumour was to be felt, about the size of a small hen's egg, and very tender. It was not pulsatile. There was no resistance in Douglas's pouch, and the tumour was mobile. After examination he told the patient that she should come into hospital, so that this small tumour could be kept under observation. The patient came into hospital three days afterwards. She said that she had had some pain in the interval, which had been very severe. Examination then showed some resistance in Douglas's pouch, and the patient continued to complain of periodical attacks of acute pelvic pain. Dr. Gibson diagnosticated a tubal pregnancy complicating an intra-uterine pregnancy, as he had never vet felt any softening of the uterus sufficient to make it feel cystic or any marked enlargement of the uterus in cases of tubal pregnancy. He opened her abdomen, and found some free blood in the pelvis with clotted blood in Douglas's pouch, an enlarged tube and a pregnant uterus. He removed the tube, and the patient made an uninterrupted recovery for two weeks, when she expelled the other ovum from her uterus. The patient was able to leave the hospital ten days later. Whether the tubal pregnancy was due to the second ovum becoming impregnated after the first, and consequently finding its passage to the uterus impeded by the decidual reaction in the tube, is an interesting question.

(2) Early Tubal Pregnancy.

THE PRESIDENT also showed this case. The patient, aged twenty-five, had had one child three and a half years previously. Her periods had been regular in time, and as usual in quantity and duration up to six weeks before he saw her; since then she had not menstruated, nor had she any discharge until twenty-six hours before she came into hospital. She was then seized with violent abdominal pains,

and a very slight red discharge made its appearance about an hour after she had been examined by her doctor. The pain continued in spite of poulticing, &c., and she finally took her doctor's advice and allowed herself to be removed to hospital. When she came in she presented all the appearance of severe blood loss. She was blanched, restless, and her pulse was 120. Her abdomen was tender to touch, somewhat rigid over her pelvis, and examination under an anæsthetic showed an apparently normal uterus, with a very small tumour at the left-hand side of it. The tumour was mobile. When the abdomen was opened a quantity of fluid blood escaped immediately. There were a number of small blood clots and the enlarged tube. The tube was removed, and the abdomen closed when portion of the blood had been removed. The patient was very collapsed, but recovered under the usual treatment. The hæmorrhage was due to the erosion of the tube, and escaped from a small opening.

(3) Unruptured Interstitial Tubal Pregnancy.

THE PRESIDENT reported a third case as follows:—The patient M. H., aged twenty-eight, had been married four years, and had two children, the youngest thirteen months old. Her menstruation had been regular in time. quantity, and duration since her baby was eight months old. One month before she consulted him her period had come on two days later than usual, and was smaller in quantity, but she had continued to bleed since. The discharge was as a rule scanty. but on three occasions it had been rather profuse. She also complained of some pain at the left side of her pelvis and in her back. She did not believe that she was pregnant. Examination revealed what at first appeared to be a pregnant uterus at about the sixth week with a myoma in its left side. The ovaries were palpable, and apparently normal. Closer examination of the hard portion of the enlarged uterus showed that it resembled the greater portion of a non-pregnant uterus, in the right side of which a cystic tumour had developed. Under an anæsthetic the uterus was apparently in every way normal but for this cystic tumour in its right side. and he concluded that it was an unruptured interstitial tubal pregnancy. There was no resistance in Douglas's pouch. When the abdomen was opened he found the first portion of the round ligament stretched out over the eystic enlargement, and the isthmial portion of the tube appeared normal. There was no free blood in the pelvis. An incision was made over the right side of the uterus, and a normal ovum was turned out from an extremely thin capsule, consisting mainly of peritoneum. The capsule of the ovum was stitched up and the hæmorrhage, which during the operation had been profuse, was thus controlled. The patient made an uninterrupted recovery.

DR. Tweedy said he would like to know what was done with the tube in the case of interstitial pregnancy. He presumed the tube was broken in order to clear out the ovum. He had seen interstitial pregnancy but never saw a case of

combined uterine and tubal pregnancy.

The President, replying to the remarks, said that as regards the unruptured interstitial pregnancy he did not interfere with the tube at all; the incision was made low down, and the ovum turned out of its capsule. He did not believe that he closed the interstitial portion of the tube when suturing the capsule. As regards the combined intra- and extra-uterine pregnancy, there was no doubt whatever about the tubal pregnancy, as the microscopical examination proved the presence of a recent ovum. He believed that the formation of the decidua in the tube was the most likely cause of the tubal pregnancy.

A Note on Malaria as a Complication of the Puerperium.

Dr. Bethel A. Solomons commented on the scarcity of cases to be found in the literature. The chief case which had come under his notice was that of an Indian official's wife with a history of an attack of malaria two years previously. The confinement was complicated, and there was an extensive laceration of the perineum and vagina. The diagnosis between sepsis and malaria was extremely difficult. The absence of growth after lochia and blood had been cultured and the presence of the Plasmodium malariae in the blood clinched the diagnosis. She recovered after a stormy puerperium.

Dr. Hastings Tweedy said he had seen two or three cases of malaria in his practice, and he also saw one of Dr. Solomons' cases, in which he suggested malaria as a possible cause of the temperature. He emphasised the importance of taking uterine cultures early. With a temperature like that

seen in Dr. Solomons' case, if the culture is negative no time should be wasted in getting a specimen of the blood, and he advised that a good quantity of blood should be taken. He was convinced that the first case was not one of pure malaria, but that some septic infection was associated with it.

Dr. Stevenson, R.A.M.C., inquired what was the nature of the parasite found, as in his experience when quinine is administered in such cases the temperature should settle down in four days, and it was noted that it did not do so for six days in the cases reported.

DR. M'ALLISTER inquired if there was any information forthcoming to show if a child born under such conditions, if exposed to the infection of malaria, would be immune, and as to whether the malarial parasite could traverse the placenta and so reach the fœtal circulation.

THE PRESIDENT inquired if the child had an enlarged spleen, or if any pigmentation was noticed. He considered that people who had had malaria were predisposed to it after operation or childbirth.

Dr. Solomons, in reply, said that his reason for bringing forward the subject was that the condition was apparently so rare.

With reference to Dr. Tweedy's suggestion that the malaria was not the only cause of the temperature he (Dr. Solomons) considered that the vaginal condition possibly aided in keeping up the temperature for a longer period than in an ordinary case of malaria.

Dr. Rowlette had examined the blood, but the variety of

parasite was not stated.

It would be interesting to know if the child was immune. He had not considered the point. The baby was a particularly fine speimen with no abnormality. The mother had been healthy during the whole pregnancy.

Pituitrin in Labour.

Drs. Madill and Allax read a paper on the use of pituitary extract in labour, in which they reported the results of 147 cases. Referring to its effect on the uterus, they found that the contractions resulting from the drug retained their physiological character, and they regarded this as the fundamental principle governing its use in labour cases.

They had never observed atonic contraction. The interval between pains was diminished by about one half, and the effect of the drug lasted fifty minutes. There was an earlier detachment of the placenta. Regarding the effect on the fœtus, they often noticed a drop in the fœtal heart following the injection, but the child was born healthy. They reported in detail four cases of fætal death which might be due to the injection of the drug. It was tried unaided in one case to induce premature labour, and in two cases in conjunction with Champetier de Ribes' bag, all being successful. They considered the second stage, with the head well through the brim, as the best time for its administration, and in most of their cases the drug was given at this time. They had good results with it in post-partum hæmorrhage in combination with ergot. Its use was contraindicated in heart lesions, but probably not in nephritis. It was a valuable adjunct in cases of placenta prævia where version had been performed. They had six instances of post-partum atony of the uterus of a slight degree.

Prof. Alfred Smith said he had no experience of pituitrin in midwifery. His only experience of it was in gynæcology, and it was of interest to know that it does equally good work in that branch. He was at present using it in cases of infantile uterus and in the menorrhagia of young girls. He mentioned that it was noticed that young rats who were fed on pituitrin extract grew to great size, and that their genital organs were hypertrophied, and it was for this reason that he was using it. He also mentioned its utility in connection with intestinal stasis after laparotomy. It was well known that pituitary extract had an action on the mammary gland, and he would like to know if any observations had been made of the mammary secretion in these cases.

Dr. Sheill said he was interested in the subject, as he had experience of the drug in about twenty-six or twenty-seven cases. He had always given it intramuscularly, and his experience was that it took eight and a half minutes to act. He would like to know if the difference between the three and a half minutes experienced by the writers of the paper and his eight and a half minutes was accounted for by the difference in the site of injection.

Regarding anæsthetics having no marked result on the injection, he asked if the drug had been used in eases in which scopolamorphine had been given, as he considered the drug less effective after scopolamorphine than in other cases. He understood from the paper that if the drug was used an hour or more before the birth of the child there was an inclination to atonic post-partum hæmorrhage, and if this were so he asked why is it recommended to use the preparation in post-partum hæmorrhage as a routine, because if the action of ergot is continuous, was it not more desirable to continue the use of ergot post-partum? He would like to know what was thought of the use of pituitary extract in cases of eclampsia.

Dr. Tweedy said he noted that Dr. Madill and Dr. Allan thought many forceps cases had been saved by the giving of pituitrin. He suggested that it would be more instructive if the number of forceps cases were compared for a period when pituitrin was given with a similar period when it was not administered.

He recommended the use of pituitrin in cases where curetting failed to stop hæmorrhage, and would suggest its use before resorting to larger operations. He was glad that the writers disapproved of its employment in cases of contracted pelvis. He mentioned a case of rupture of the uterus, following quickly upon the administration of pituitary extract, brought under his notice by a doctor in America, and drew attention to the fact that no mention was made in the paper of deaths which occurred from the giving of this drug. He inquired if the Assistant Masters ever tried a smaller dose than 1 c.c. He had found half of the contents of one of these small phials sometimes produced extremely good labour contractions, and he always injected half the quantity, and then proceeded to give the remainder if it was not effective. He pointed out that Dr. Jardine spoke at the International Medical Congress last year in London in glowing terms of the use of the drug in cases of accidental hæmorrhage. He inquired if failures occurred in any cases in which injections were given, or was it practically uniformly successful in exciting strong labour pains. He did not consider that cases delivered by forceps in the Rotunda Hospital could be compared with the cases where pituitary extract was given.

Dr. Solomons said it seemed to him a most fortunate matter that most authorities agreed that whilst the drug was useful in cases of active abortion it was useless as an abortifacient. He wished to know how the syringe was sterilised, as successful results seemed to depend partly on this. He was surprised to hear that there were no lacerated cervices or ruptured uteri in any of the cases, as De Lee, in the Year-Book of Obstetrics, published by the Chicago Year-Book Publishers, commented on these results of the drug. It was of the utmost importance, where there was suspicion of contracted pelvis, that pelvimetry should be done before administering pituitrin. In cases of post-partum hæmorrhage he would like to know whether any preparation of ergot was given as well: he had found ergotin citrate most satisfactory. He asked if the drug had been used in cases of atony of the bladder. He mentioned that he had given pituitary extract with excellent effect in cases of amenorrhoa with chlorosis.

DR. M'ALLISTER referred to a paper read by him regarding the control of post-partum hæmorrhage and shock from that condition by intravenous injections of a very dilute solution of infundibulin. He said undoubtedly these preparations increase the uterine contractions, but he did not consider that the contractions preserved their physiological character, there being a tendency for the interval between the pains to become too short. He considered the drug at its best where there was slight obstruction, and pointed out that the general opinion was that it was most useful and safest for the child during the expulsion stage. He did not feel satisfied that the results obtained from pituitrin in the third stage were as satisfactory as from ergotin. He had found that the injection of pituitrin into the uterus was very useful preceding Cæsarean section. Pituitrin markedly increased the excretion of urine. In cases of retention of urine after operation his experience in the Coombe Hospital showed that it was useless.

DR. JELLETT thanked the writers for the amount of work they had performed and for the valuable results brought forward. He had little doubt that if anyone was to study the paper and deduce facts from it he would be able to get some valuable information. He pointed out that it had been found that the use of pituitary extract in 140 cases had not been followed by any bad results. As to the question of fætal mortality. He had been sceptical about its use for some time, because he thought perhaps it was followed by definite danger to the fætus. However, he considered the results brought

forward were strikingly directed to prove the contrary. Although he agreed with Dr. Tweedy in regard to the application of forceps, still the fact remained that in a large number of cases in which forceps are applied the necessity for their application arises out of a delay in the second stage, and if pituitary extract avoids this there should be a lower morbidity. He considered that the use of pituitary extract was contraindicated where there was any obstruction to the birth of the child, but where there is no undue obstruction and where rapid pains can empty the uterus he thought Drs. Madill and Allan had shown that the drug was useful. With regard to the use of pituitary extract in ante-partum hæmorrhage he would like to emphasise the fact that delay after the hæmorrhage was checked was beneficial to the patient, although it was anything but beneficial to the child. thought, therefore, that it was unwise to hasten delivery until the woman had recovered somewhat, and that then pituitary extract might be of value when uterine contractions did not come on strongly of themselves.

The President said he had seen two cases in which its administration during the first stage had been followed by extensive laceration of the lower uterine segment. In a case of placenta prævia it was impossible to turn the child owing to the effect of the extract. He considered the extract contraindicated in the first stage of labour unless the contractions were very feeble and the stage prolonged, and the cervix neither diseased nor friable. In the second stage it was excellent when there is uterine inertia; after the third stage it should be combined with intra-muscular injection of ergot.

In conclusion he pointed out that he had seen much trouble result from the injudicious use of the extract, and that it should not be used freely but with great care, and not at all in cases of obstruction.

Dr. Allan, in replying to the remarks, said there was no change noticed in the mammary gland. In the first cases the drug was given intra-muscularly, but latterly subcutaneously. It was found that when it was given by the former method the pains came on quicker, but by the latter method the pains were more gradual and at longer intervals. They had no experience of it with scopolamine-morphine. The drug was never given in *post-partum* hæmorrhage alone, it was always combined with ergot; neither had it been ad-

ministered in cases of eclampsia. In five cases the drug had failed to be of any use. In the year previous to the use of the drug there were 106 forceps cases at the Rotunda Hospital, and during the past year when it was given there were only 56 cases. No opportunity was afforded of trying the drug in a case of accidental hæmorrhage. Syringes were sterilised by boiling, and afterwards kept in sterilised water. There was no experience in any of the cases of cervical tears. It was agreed that the best results were obtained in the expulsion period. It was not considered that the drug had any advantage over ergot in cases of Cæsarean section, and the latter was always given. They were emphatic in their opinion that the drug should be used with caution, and that the fætal heart should be carefully watched.

AORTIC INSUFFICIENCY FROM RUPTURE OF THE SIGMOID VALVE.

AT the meeting of the Société médicale des Hôpitaux on the 13th of February, 1914, MM. Barth and Colombe presented the heart of a young man of thirty-six years of age who suffered from aortic insufficiency consecutive to a violent muscular effort. The rupture was situated on the right sigmoid valve, of which the anterior portion alone exists, the posterior being separated from its base to the extent of 12 millimetres; two vestiges of this portion float as fine filaments in the lumen of the orifice, the whole three sigmoids are altered and an atheromatous patch exists at the base of the aorta. These accessory lesions are important from a double point of view—ætiological and practical. They raise the question of a condition anterior to the accident, almost always difficult to solve by examination prior to the accident. In this case, the paludism appeared to be the cause of the pre-existent aortitis. At the moment of the violent effort which caused the valvular rupture there was a sensation of a crack or sound of something having given way within the chest without any severe dyspnæa, cyanosis, or flushing; cardiac troubles did not manifest themselves for five days afterwards. All laborious or prolonged work thenceforward became impossible, and withal the man lived thirteen months: the evolution of the symptoms confirming the prognosis, the ever grave one, of rupture of the valves. - Gazette des Hônitaux, 87-ième Année, No. 21, February 16th, 1914.

SANITARY AND METEOROLOGICAL NOTES.

VITAL STATISTICS.

For four weeks ending Saturday, April 18, 1914.

IRELAND.

The average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended April 18, 1914. in the Dublin Registration Area and the twenty-six principal provincial Urban Districts of Ireland was 22.5 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,205,280. The deaths registered in each of the four weeks of the period ending on Saturday, April 18, and during the whole of that period in certain of the districts, alphabetically arranged, correspond to the following annual rates per 1,000:—

		Average Rate					
County Boroughs, &c.	Mar. 28	April 4	April 11	April 18	for 4 weeks		
27 Town Districts	22.8	21.7	20.3	22.5	21.8		
Dublin Reg. Area	27.2	26.1	24.1	26.1	25.9		
Dublin City	31.1	26.7	28.7	29.4	29.0		
Belfast	19.6	17.8	18.6	21.2	19.3		
Cork	22.4	21.1	19.7	27.9	22.8		
Londonderry	11.4	14.0	22.8	17.8	16.5		
Limerick	29.8	17.6	16.2	27.1	22.7		
Waterford	19.0	36.1	11.4	32.3	24.7		

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 27 districts during the week ended Saturday. April 18, 1914, were equal to an annual rate of 3.4 per 1,000. Among the 162 deaths from all causes in

Belfast were 2 from measles, 5 from scarlet fever, 1 from diphtheria, 9 from whooping-cough, and 3 from diarrheal diseases. Included in the 41 deaths from all causes in Cork were 1 from enteric fever and 1 from whooping-cough. One of the 3 deaths from all causes in Dundalk was from enteric fever. Of the 4 deaths in Lurgan, 1 was from measles, and of the 17 deaths recorded for Waterford, 2 were from diarrheal diseases.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin, as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines. Pembroke. Blackrock, and Kingstown. The population of this area is 406,000; that of the City being 310,467, Rathmines 39,155, Pembroke 30,240, Blackrock 9,197, and Kingstown 16,941.

In the Dublin Registration Area the births registered during the week ended April 18 amounted to 218—116 boys and 102 girls, and the deaths to 212—106 males and 106 females.

DEATHS.

The deaths registered, omitting the deaths (numbering 9) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 26.1 per 1,000 of the population. During the sixteen weeks ending with Saturday, April 18, the death-rate averaged 24.4, and was 0.5 below the mean rate for the corresponding portions of the ten years, 1904–1913.

The total deaths registered, numbering 212, represent an annual rate of 27.2 per 1.000. The annual rate for the past sixteen weeks was 25.9 per 1.000, and the average annual rate for the corresponding period of the past ten years was 26.1 per 1,000 of the mean population for all deaths registered.

The deaths (212) included 4 from whooping-cough, 1 from enteric fever, 1 from influenza, 1 from dysentery, 39 from measles, and 7 from diarrhæa and enteritis in children under 2 years. In each of the three preceding weeks deaths from whooping-cough had been 3, 3, and 2; from enteric fever, 0, 0, and 1; from influenza, 2, 3, and 0; from measles, 27, 22, and 34; and from diarrhæa and enteritis of children under 2 years, 4, 1, and 2.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA, AND IN BELFAST, CORK, LONDONDERRY, LIMERICK, AND WATERFORD.

The following Table shows the Number of Cases of Infectious Diseases notified, under the "Infectious Diseases (Notification) Act, 1889," and the "Tuberculosis Prevention (Ireland) Act, 1908," in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the Cities of Belfast, Cork, Londonderry, Limerick, and Waterford, during the week ended April 18, 1914, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

-	notinable in the District.																	
	CITIES AND URBAN DISTRICTS	Week ending	Measles	Rubella, or Epidemic Rose Rash	Searlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Pyrexia (origin uncertain) a	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Whooping-cough	Cerebro-spinal Fever	A cute Polio- myelitis	Pulmonary Tuberculosis	Total
	City of Dublin	Mar. 28 April 4 April 11 April 18	•	0 0 8	7 6 11 3			10 12 9 8	-	- 1	1 7 4 2	2 2 2	1 1 -	*	-		21 29 20 27	42 6 56 48 43
	Rathmines and Rathgar Urban District	Mar. 28 April 4 April 11 April 18		•	4 2 - 3	- 1 - -		1 1 - 2				2 -	-	*	:	•	*	7
	Pembroke Urban District	Mar. 28 April 4 April 11 April 18	16 15 7 2	-	2 4 - 6	-		2 - 4	-	- - -	1 1 1	- - 1		1 6 3			2 1 2	21 28 12 13
	Blackrock Urban District	Mar. 28 April 4 April 11 April 18	0		-				-	-	- 1 1 -	-	-			•	•	-
-	Kingstown Urban District	Mar. 28 April 4 April 11 April 18	*	*	1		- 1		-	-		- 2 -		*			- 6	- 3 6
The state of the s	City of Belfast	Mar. 28 April 4 April 11 April 18	0 0	0	35 42 52 27		-	7 18 4 2	1 - 1 1	1 - 1 -	1 - 2 5	4 4 7 4	-		-		5 6 4 2	54 65 71 41
	City of Cork	Mar. 28 April 4 April 11 April 18	1 1 2 1	*	7 1 - 2	-		1 - - 1	1 1 -	1	1 2 5	1	1 -	*	:	*	*	13 <i>b</i>
	City of London-derry	Mar. 28 April 4 April 11 April 18	•	4	1 1 1	-	-	1	1111	-	-			*	:	*	*	- 2 1 1
	City of Limerick	Mar. 28 April 4 April 11 April 18	*		1 - 1 1	=======================================	-				- - -	1111	-	* * *	-	*	*	1 1 1
-	City of Waterford	Mar. 28 April 4 April 11 April 18	*	•				1111			-	1111		* * *	*		3 - 1	- 3 1

a Continued Fever

Of 32 deaths from tuberculosis (all forms), 22 were attributed to pulmonary tuberculosis, 5 to tubercular meningitis, 2 to abdominal tuberculosis, and 3 to disseminated tuberculosis. In each of the three preceding weeks, deaths from all forms of tuberculosis had been 21, 22, and 28.

There were 8 deaths from cancer, or malignant disease, excluding those of 3 persons from localities cutside the Area from the same disease.

There were 2 deaths of infants from premature birth, 2 deaths from convulsions, and 1 death from congenital debility.

The 16 deaths from pneumonia included 9 from bronchopneumonia, 2 from lobar pneumonia, and 5 from pneumonia (type not distinguished).

Nineteen deaths were caused by organic diseases of the heart. There were 24 deaths from bronchitis.

There were 4 accidental deaths, including 2 caused by drowning.

In 5 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 3 children under 5 years of age (including 1 infant under 1 year old), and the death of a person aged 74 years.

Eighty-nine of the persons whose deaths were registered during the week were under 5 years of age (29 being infants under 1 year old, of whom 7 were under 1 month old), and 42 were aged 65 years and upwards, including 23 persons aged 70 and upwards. Among the latter were 13 aged 75 years and upwards, of whom 1 (a female) was stated to have been aged 97 years.

Cases of Infectious Diseases under Treatment in Dublin Hospitals.

During the week ended April 18, 1914, 4 cases of enteric fever were admitted to hospital, 6 were discharged, there was 1 death, and 24 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the three preceding weeks having been 26, 30, and 27.

One case of typhus remained under treatment at the close of the week.

Fifty-three cases of measles were admitted to hospital, 28 cases were discharged, there were 7 deaths, and 166 cases remained under treatment at the close of the week. At the end of the three preceding weeks such cases had been 99, 126, and 148, respectively.

Eighteen cases of searlet fever were admitted to hospital, 8 were discharged, and 104 cases remained under treatment at the close of the week. This number is exclusive of 19 patients under treatment at Beneavin. Glasnevin, the Convalescent Home of Cork Street Fever Hospital. At the close of the three preceding weeks the cases in hospital had been 105, 101, and 94, respectively.

Eight cases of diphtheria were admitted to hospital, and 19 were discharged. The cases in hospital, which at the close of the three preceding weeks had numbered 40, 47, and 50 respectively, were 39 at the close of the week under review.

In addition to the above-named diseases, 3 cases of pneumonia were admitted to hospital. 5 were discharged, there was 1 death, and 23 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, April 18, in 97 large English towns (including London, in which the rate was 14.5) was equal to an average annual death-rate of 14.9 per 1,000 persons living. The average rate for 16 principal towns of Scotland was 16.0 per 1,000, the rate for Glasgow being 16.5, and that for Edinburgh 16.7.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended April 18. From this report it appears that of a total of 66 cases notified, 32 were of scarlet fever, 17 of phthisis, 9 of diphtheria, 7 of erysipelas, and 1 of enteric fever. Among the 559 cases of infectious diseases in hospital at the close of the week were 241 cases of scarlet fever, 200 of phthisis, 57 of diphtheria, 35 of measles, 4 of enteric fever, 1 of whooping-cough, and 10 of erysipelas.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of April, 1914.

Mean Height of Barometer. -- 30.035 inches. Maximal Height of Barometer (26th, at 9 a.m.), 30.615 Minimal Height of Barometer (7th, at 4 p.m.), 29.212 Mean Dry-bulb Temperature. - 48.9°. Mean Wet-bulb Temperature. 45.2°. Mean Dew point Temperature, 41.3°. Mean Elastic Force (Tension) of Aqueous Vapour, .261 inch. Mean Humidity. 75,5 per cent. Highest Temperature in Shade (on 21st), - 68.0°. Lowest Temperature in Shade (on 16th), 36.9°. Lowest Temperature on Grass (Radiation) (16th) 34.8°. - 35.7 per cent. Mean Amount of Cloud. --Rainfall (on 11 days). .719 inch Greatest Daily Rainfall (on 3rd), .197 _ General Directions of Wind. W., E. N.E., S.W.

Remarks.

April, 1914, may be described as a very favourable springlike month. Until the 13th it proved true to its traditional character as the month of showers and sunshine. From that date onward to the close it was remarkably fine and bright, as well as abnormally dry. In the earlier and changeable period the barometer was generally low on the Atlantic between Iceland and the British Isles, and accordingly fresh to strong S.W. and W. winds prevailed, and showers fell at frequent intervals, chiefly in the afternoons. This was especially the case in the second week, during the opening days of which the barometer remained as low as 28.80 inches off the North of Scotland, while secondary shallower depressions passed eastwards across Ireland and England. On the 6th the wind attained gale force in Dublin, and hail showers fell in this city on that and the following four days. On the 13th a large anticyclone spread in over Ireland from the Atlantic, and this system developed much energy and great staving

power. The wind fell light or shifted to easterly points of the compass, with an unusual absence of cloud. The result was a very pronounced diurnal range of temperature—examples as, on the 20th the screened thermometer rose at Bath to 72° and fell to 37° during the following night—a range of 35° in a few hours; on the 16th, at Birr Castle, the range was from 35° to 63°, on the 17th at Nairn, the minimum was 35°, the maximum was 70°. Even in Dublin, on the sea coast, the range on the 15th was from 37° to 58°. In the closing days of the month the British Isles came again under the influence of a large anticyclone. At Killarney the thermometer rose to 72° in the screen on the 20th and 21st and the mean temperature of the four weeks ended the 25th was 4.6° above the average.

In Dublin the arithmetical mean temperature (50.4°) was 2.8° over the average (47.6°). The mean dry-bulb readings at 9 a.m. and 9 p.m. were 48.9°. In the forty-nine years ending with 1913, April was coldest in 1879 (the cold year) (M. $T. = 44.5^{\circ}$), and warmest in 1893 (M. $T. = 51.4^{\circ}$). In 1912 the M. T. was 49.5°.

The mean height of the barometer was 30.035 inches, or 0.185 inch above the average value for April—namely, 29.850 inches. The mercury rose to 30.615 inches at 9 a.m. of the 26th, and fell to 29.212 inches at 4 p.m. of the 7th. The observed range of atmospheric pressure was, therefore, 1.403 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 48.9° , or 3.5^{\bullet} above the value for March, 1914. Using the formula, Mean $Temp. = Min. + (Max. - Min.) \times .476$, the value is 50.0° , or 2.7° in excess of the average mean temperature for April, calculated in the same way, in the thirty-five years, 1871-1905 (47.3°). The arithmetical mean of the maximal and minimal readings was 50.4° , compared with a thirty-five years' (1871–1905) average of 47.6° . On the 21st the thermometer in the screen rose to 68.0° -wind, S.W.; on the 16th the temperature fell to 36.9° —wind, E. The minimum on the grass was 34.8° on the 16th. The mean maximal temperature was 57.5° , the mean minimum was 43.2° .

The rainfall was .719 inch, distributed over 11 days, all of them before the 14th. The average rainfall for April in the thirty-five years, 1871–1905, was 1.940 inches, and the average number of rain-days was 16. The rainfall, therefore, and also the rain-days were considerably below the average. In 1877 the rainfall in April was very large -4.707 inches on 21 days. On the other hand, in 1873, only .498 was measured on 8 days. In 1913, 2.764 inches fell on 19 days.

High winds were noted on 10 days, but reached the force of a gale only on the 6th. Hail fell on the 6th and following four days. The temperature rose to 60° in the screen on 8 days. It just failed to reach 50° on the 8th. It never fell to 32° in the screen or even on the grass. The mean lowest temperature on the grass was 40.8°, compared with 38.4° in 1913, 39.7° in 1912, 40.2° in 1911, 36.0° in 1910, 39.0° in 1909, 35.4° in 1908, 36.7° in 1907, 33.6° in 1906, 37.3° in 1905, 39.1° in 1904, 37.0° in 1903, 36.8° in 1902, 37.3° in 1901, and only 31.6° in 1887.

The rainfall in Dublin during the four months ending April 30th amounted to 6.304 inches on 68 days, compared with only 4.700 inches on 59 days in 1911, 10.119 inches on 68 days in 1912, 11.097 inches on 74 days in 1913, an average of 8.338 inches on 69 days in the first decade of the twentieth century, and a thirty-five years (1871–1905) average of 8.070 inches on 66 days.

At the Normal Climatological station in Trinity College, Dublin, Mr. S. A. Clark reports that the mean height of the barometer was 30.021 inches, the range of atmospheric pressure being from 30.56 inches at 9 p.m. of the 25th and 9 a.m. of the 26th to 29.27 inches at 9 a.m. of the 7th. The mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 49.9°. The arithmetical mean of the daily maximal and minimal temperatures was 48.5. The screened thermometers rose to 69° on the 21st, and fell to 32.7° on the 7th. On the 15th, 16th and 17th the grass minimum was 30.0. Bain fell on 9 days to the amount of .757 inch, the greatest fall in 24 hours being .20 inch on the 3rd. The duration of bright sunshine, according to the Campbell Stokes recorder, was 196.1 hours, of which 11.4 hours occurred on the 17th. The mean daily duration of sunshine was 6.5 hours. The mean temperature of the soil at 9 a.m. was 49.2" at a depth of 1 foot; at a depth of 4 feet it was 47.7°.

Captain Edward Taylor, D.L., gives the rainfall at Ardgillan, Balbriggan, Co. Dublin, as 1.33 inches on 10 days, the rainfall being .68 inch below, and the rain-days 6 below, the average for 21 years. The heaviest fall in 24 hours was .35 inch on the 3rd. The rainfall from January 1st equals 6.49 inches on 64 days—that is, 1.99 inches and 2 days under the average. The thermometers in the screen rose to 66.0° on the 22nd, and fell to 34.9° on the 12th.

Mr. T. Bateman, of The Green, Malahide, Co. Dublin, returns the rainfall at .81 inch on 11 days. The greatest fall in 24 hours was .26 inch on the 3rd. The rainfall was the smallest recorded in April at Malahide within the past 14 years.

At Stirling, Clonee, Co. Meath (height above sea-level being 231 feet). Mr. J. Pilkington registered a rainfall of 1.12 inches on 12 days, the greatest measurement on one day being .26 inch on the 9th, on which day thunder and a heavy shower of hail occurred. There was no measurable rainfall at Clonee from the 14th to the 30th, inclusive.

At the Ordnance Survey Office. Phonix Park, Dublin, rain fell on 10 days to the amount of .925 inch, the greatest measurement in 24 hours being .260 inch on the 3rd. The total amount of bright sunshine was 237.8 hours, of which 12.9 hours fell on the 17th, the brightest day of the month.

At Cheeverstown Convalescent Home for Little Children. Clondalkin. Co. Dublin. Miss C. Violet Kirkpatrick recorded 1.50 inches of rain on 10 days. The largest fall in 24 hours was .33 inch on the 4th.

At 21 Leeson Park, Dublin, Dr. Christopher Joynt, M.D., F.R.C.P.I., measured .500 inch on 9 days, the largest amount recorded in 24 hours being .180 inch on the 3rd.

Mr. Harold Fayle has forwarded the following report from 19 Highfield Road, Rathgar, Co. Dublin:—

Mean corrected height of barometer. - 30.054 inches.

Maximal height (25th at 9 p.m.) - 30.61 ...

Minimal height (9th at 9 p.m.), - 29.28

Mean dry-bulb temperature, -. - 49.1°.

Mean wet-bulb temperature, - - 46.0°.

Mean tension of aqueous vapour, - .278 inch.

Mean humidity, - - - 80.0 per cent.

Highest temperature in shade (21st), - - 70°. Lowest temperature in shade (16th), - - 31°. Lowest temperature on grass (16th), -25°. Highest temperature in sun (26th), -- 136°. Mean maximum temperature. 57.8°. 40.6°. Mean minimum temperature, -Arithmetical mean temperature. 49.2°. Mean amount of cloud. 46 per cent. Rainfall (on 10 days), -.63 inch. Greatest daily rainfall (on 3rd), .17 General directions of wind, - S.W. 17, W. 10, E. 8 Days of ground frosts, - 8. -Days of gale, - -- 1.

Dr. Arthur S. Goff reports that the rainfall at Belfort House, Dundrum, Co. Dublin, was .84 inch on 12 days. The greatest daily rainfall was .19 inch on the 3rd. The mean shade temperature was 50.2°, compared with a ten years' (1901–1910) average of 46.6°. The thermometric range was from 37° on the 9th, 15th and 16th, to 71° on the 21st.

Mr. George B. Edmondson recorded a rainfall of .97 inch on 12 days at Manor Mill Lodge, Dundrum, Co. Dublin. The greatest fall in 24 hours was .19 inch on the 9th. The thermometer in the screen ranged between 69° on the 21st and 35° on the 16th. The mean temperature of the month was 49.9°.

At Marino, Killiney, Co. Dublin, Mr. W. J. M'Cabe, the observer for the Right Hon. L. A. Waldron, D.L., registered .89 inch of rain on 8 days. The largest fall in 24 hours was .35 inch on the 3rd.

Dr. John H. Armstrong reports that at Coolagad, Greystones, Co. Wicklow, the rainfall amounted to 1.43 inches on 10 days. The heaviset fall in 24 hours was .73 inch on the 3rd. Hail fell heavily on the 6th. The total rainfall in 1914, up to April 30th was 10.52 inches on 70 days, compared with 6.07 inches on 56 days in the corresponding period of 1911, 19.08 inches on 74 days in 1912, and 18.04 inches on 78 days in 1913. Thick fog prevailed in the early morning of the 20th.

Mrs. Sydney O'Sullivan recorded .96 inch of rain on 10 days at Auburn. Greystones, the largest measurement in 24 hours being .48 inch on the 3rd.

Dr. Charles Denys Hanan, M.D., Resident Medical Officer at the Royal National Hospital for Consumption, Newcastle, Co. Wicklow, reports that the rainfall at that place was 1.29

inches on 8 days, the maximal fall in 24 hours being .51 inch on the 3rd. The mean temperature of the air was 48.2°, the thermometer in the screen having risen to 66° on the 22nd, and fallen to 36° on the 12th and 15th. The mean maximal temperature was 55.4°, the mean minimum being 40.9°.

At the Rectory, Dunmanway. Co. Cork. the Rev. Arthur Wilson, M.A., measured 3.05 inches of rain on 11 days. The heaviest falls were on the 4th (.75 inch) and 9th (.47 inch). There was no rain from the 13th to the 30th. The rainfall for the 4 completed months of 1914 equals 27.67 inches on 89 days, the average for the same period in the previous 8 years being 19.85 inches. April was a very fine bright month at Dunmanway, with the exception of a few days from the 3rd to the 9th. There were frequent frosts at night, following on fine, sunny days, which were the rule after the 9th.

TREATMENT OF MAMMARY ABSCESS WITHOUT INCISION.

LA QUINZAINE THÉRAPEUTIQUE (March 10th, 1914) recommends a more extensive employment of MM. David and Chirie's method of treating abscess of the breast. Excluding all cases of mammary abscess in which the gland has almost become a bag of pus, the modified operation might be with advantage followed. It has the recommendation of not leaving a cicatrix on the breast; is easily performed, consequently does not call for an anæsthetic; is practically devoid of risk, and is successful. The operation consists in drawing off the purulent matter by an aspirator and on the pus being drained off the cavity is filled with an antiseptic solution. MM. David and Chirié employ for this purpose silver colloid prepared by electricity, and they recommend that a silver needle be used. The duration of the treatment is variable, depending on the size of the abscess and on the character of its microbes; it usually occupies from one to three weeks being longer than the classic method, but the result from an esthetic point of view is infinitely superior.

PERISCOPE.

TUMENOL-AMMONIUM IN DERMATOLOGY.

At the meeting of the Scientific Society of Brussels of the 14th of January, 1914 (Annales de la Policlinique Centrale, 14-ième Année, p. 24), Dr. Bernard brought under notice the remarkable antiprurigenous properties of tumenol-ammonium. He speaks of its value in chronic eczema of the hands, seborrhoic eczema, psoriasis, eczema of the scrotum, pruritus ani, and lichen planus. After one or two applications the itchiness was much lessened and all the cases recovered much more quickly than they do under ordinary treatment. He prescribes an ointment of oxide of zinc, subnitrate of bismuth and 2 to 15 per cent. of tumenol-ammonium. [Tumenol derives its name from bitumen, from which it was first obtained. It is a dark oleagenous acid body of the consistence of syrup, consisting of a mixture of sulphones and sulphonic acid, obtained from purified mineral oils by the direct action of concentrated sulphuric acid, the separated sulphones are known as tumenol oil, an aromatic syrupy fluid; tumenol sulphonic acid exists as a black powder, soluble in water. A 10 per cent, tincture of it has been long known for its soothing effects on itching dermatoses.

LITERARY INTELLIGENCE.

MESSRS, J. & A. Churchill beg to announce the following new books and new editions:—

"A New Work on Operative Surgery:" the Head and Neck, the Thorax and the Abdomen. By Edward H. Taylor, Professor of Surgery in the University of Dublin. The author says in his Preface: -"In the description of the various operations I have followed a definite plan—viz., to arrange the description in successive stages from the first incision up to the introduction of the sutures, as I believe such an arrangement will prove helpful in enabling those who are not constantly engaged in operative work to follow out the various stages without difficulty. In all cases I have described the operations as I perform them myself, and in certain cases where a choice

lay between different methods I have selected that which I have found by experience the most satisfactory." All the illustrations in the work, numbering 300, are from original drawings, many being printed in colours.

New Editions of:—"The Apsley Cookery Book. By Mrs. John J. Webster and Mrs. H. Llewelyn. "Elementary Practical Chemistry. Part II. By F. Clowes, D.Sc. Lond., and J. Bernard Coleman, A.R.C.Sc., Dublin. Seventh edition. 3s. 6d. net.

MESSRS. J. & A. CHURCHILL also announce that they have now ready the tenth edition of Taylor's "Practice of Medicine" (18s. net) and the fifth edition of Hewlett's "Manual of Bacteriology" (10s. 6d. net). Both books have been thoroughly revised and new illustrations have been added. Their large sale proves their popularity and demonstrates that the authors know exactly what their readers require. Both books are wonderfully clear and lucid and show that the authors have the genius for imparting knowledge.

A reliable and essentially practical book, "The Ills which our Vocations or Avocations Engender," is soon to appear, under the joint editorship of Dr. George M. Kober, of Washington, D.C., and Dr. Wm. C. Hanson, of Boston, Mass. Among the contributors are such authorities as Sir Thomas Oliver; Legge (London); Teleky (Vienna); Devoto (Milan); Edsall (Harvard); Alice Hamilton (Chicago); &c., &c. P. Blakistons, Son & Co., Philadelphia, will publish the volume.

FOR THE WELFARE OF INFANCY.

THE RIGHT HON. HERBERT SAMUEL. President of the Local Government Board, will give the Inaugural Address at the National Conference on Infant Mortality, which is to be held at Liverpool on July 2nd and 3rd. Many important subjects are down for discussion, including milk sterilisation, ante-natal hygiene, the teaching of infant hygiene to the elder girls in elementary schools, the scope and functions of schools for mothers and the special responsibilities of sanitary authorities in regard to infant welfare. A large number of local authorities and voluntary associations for infant welfare have already appointed delegates.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Istin.

ISTIN is a new synthetic laxative, which has been recently introduced to the notice of the Medical Profession by the Bayer Company, Limited, 19 St. Dunstan's Hill, London, E.C. It is closely related to the active cathartic principle of rhubarb, is given in doses of $\frac{1}{2}-1\frac{1}{2}$ tablets ($2\frac{1}{2}-7\frac{1}{2}$ grs.), with water, either hot or cold, shortly before bedtime, and the effect is generally observed after 8 to 12 hours. Istin is an orange-yellow powder, sparingly soluble in water and the organic solvents, soluble in hot acetic acid. It is tasteless, readily taken, causes no gastric irritation, and does not repeat. Its formula is as follows:—

According to clinical experiments Istin assists to a normal condition, the action of a single dose being often noticeable for several successive days. It acts by a stimulation of peristalsis in the large bowel alone. The advantages claimed for it are absence of griping, pain and other undesirable symptoms, and uniformity of composition with consequent accuracy of dosage. In common with rhubarb, senna, &c., it imparts a reddish colour to the urine, but it does not irritate in any way the kidneys or urinary tract, and causes no albumen in the urine.

" Secway."

Under this registered name the Casein Company, Ltd., Culvert Works, London, S.W., have placed on the market a pure sweet whey powder, which is recommended for making modifications of milk or whey cream. It is uniform and free from curd. The composition of the preparation is stated to be:—moisture 1.20, fats .27, soluble lact-albumen 14.25, mineral matter 9.80, and milk sugar 74.45 per cent. From this analysis the nutritive properties of "Secway" are manifest. The sweet whey from which it is prepared is made especially from fresh sweet milk from inspected dairies. Each tin, sealed, carries directions for use and formulas for infant and adult feeding.

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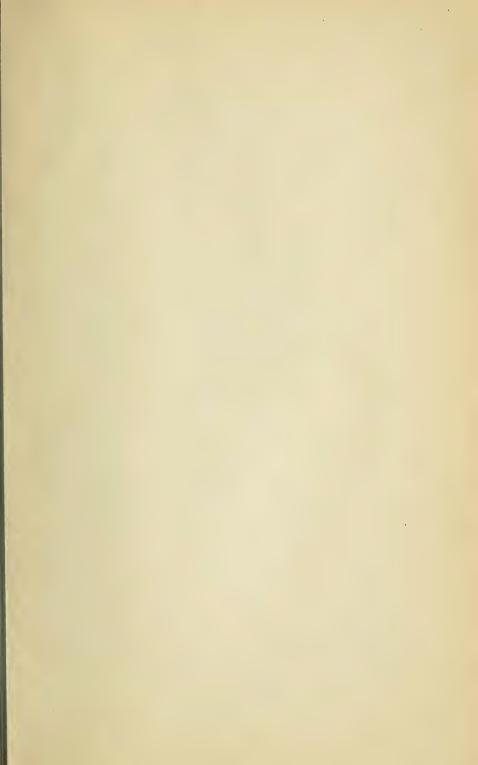
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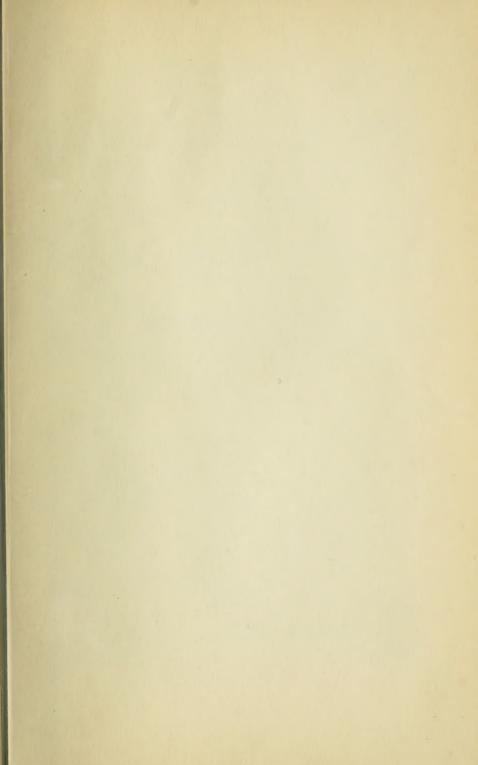
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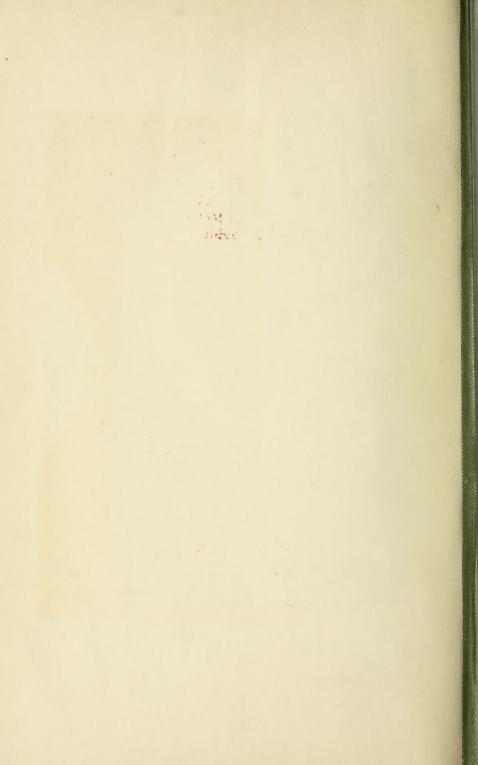
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